

Sales and Marketing Bulletin

Number: CALA-060-MB
Date: March 1995

Announcing Meridian 1 Option 51C

Northern Telecom Cala, is pleased to announce the availability of the Meridian 1 Option 51C.

The Option 51C joins the two other family members using the Commercially available Motorola Processor, the Option 61C and 81, introduced with rel. 20.06 software. Because of additional software development required for single CPU operation, the Option 51C will be available April 1995 with software release 20.19 (or 20B).

The Option 51C provides a cost-effective solution for those customers who do not require the incremental network capacity of an Option 61C/81, but do require the extra processing power required for more application-intensive configurations such as ISDN PRA, ISDN BR, ACD, Network ACD, Network Attendant Service, IVR, CCR and all call centers.

The Option 51C provides significant capacity increases over the existing Option 51 and a wide variety of features and applications for organizations requiring 200 to 1,000 ports. These new systems incorporate commercial technologies in its core (CPU/MEM) architecture and continues the evolution of the Meridian 1 family. These technologies include a commercial microprocessor, where previously NT used a proprietary microprocessor; the use of the industrial standard C++ software language, where previously we used an NT proprietary SL-1 software language; and a new Meridian 1 real time Operating System based on a third-party vendor which includes the following features:

- Multitasking
- Industry-standard network connectivity
- MS DOS compile file system
- OS libraries
- Device Drivers for many popular I/O devices
- Interactive shell and debugging tools

These new technologies will allow NT to improve our field maintenance and development support even more; and will allow us to be more responsive to new customer feature requirements and future developments.

The Option 61C information has also been included in the attached for your convenience

Table 1 - Meridian 1 Option 61C System Specifications

Power	DC
Maximum Number of Ports	2,000 (Application dependent)
Input Voltage	-48 VDC
Number of CPUs:	2
Word Size:	32-bit
Busy Hour Call Completions:	60,000
Max.# of Loops available:	32 Loops with either 8 Superloops or 32 Enet loops
Configuration for Traffic loops:	28 Loops (assumes 3 SNET & 1 ENET per Network module)
TDS loops:	2
Conference loops:	2
Timeslots:	960- for 32 loops
Total Traffic :	840- for 28 loops
TDS :	60- for 2 TDS loops
Conference:	60- for 2 CONF loops
Simultaneous Connections:	420 for 28 Loops
Total-CCS :	28,000 CCS for 8 SNETs
*Traffic CCS is at P.01 Grade of Service	or 23,600 CCS for 28 Loops (excluding service circuits)
PE Density	Single density (SD)Enet only Double density (DD)-Enet only Quad density (4D)-Enet only Octal density (8D)-Snet only
Cooling	Fan Impellers in Pedestal
Total Memory	24 Mbyte (DRAM)...20.06 48 Mbyte (DRAM)...20.19 (expandable to 96 Mbytes)
Storage Media	Redundant Core Multi Drive Units each with one 3.5" 4 MB Floppy Disk Drive and one 245 MB Hard Disk
Software Generic	1811 Rls.20.06 and later

Meridian 1 Option 51C System Specifications

Power	DC
Maximum Number of Ports	1,000 (Application dependent)
Input Voltage	-48 VDC
Number of CPUs:	1
Word Size:	32-bit
Busy Hour Call Completions:	60,000
Max.# of Loops available:	16 Loops with either 4 Superloops or 16 Enet loops
Configuration for Traffic loops:	14 Loops (assumes 3 SNET & 2 ENET)
TDS loops:	1
Conference loops:	1
Timeslots:	480- for 16 loops
TotalTraffic:	420- for 14 loops
TDS :	30- for 1 TDS loops
Conference:	30- for 1 CONF loops
Simultaneous Connections:	210 for 14 Loops
Total-CCS:	14,000 CCS for 4 SNETs <i>3500 CCS Svd</i>
*Traffic CCS is at P.01 Grade of Service	or 11820 CCS for 14 Loops <i>900 CCS</i> (excluding service circuits)
PE Density	Single density (SD)Enet only Double density (DD)-Enet only Quad density (4D)-Enet only Octal density (8D)-Snet only
Cooling	Fan Impellers in Pedestal
Total Memory	48 Mbyte (DRAM) (expandable to 96 Mbytes)
Storage Media	Single Core Multi Drive Unit with one 3.5" 4 MB Floppy Disk Drive and one 245 MB HardDisk
Software Generic	1711 Rls.20.19 and later

Meridian 1 Option 61C/51C Hardware Overview

The following section provides a short summary of the new circuit packs used on the Option 61C/51C. Refer to figure 1 for circuit card locations in the Core/Network Modules. A complete block diagram of the Option 61C/51C is depicted in figure 4. An Option 51C comprises of a single Module only, and therefore, is equipped with a single CMDU.

Core Bus Terminator card (NT6D003)

The Core Bus Terminator is a full size circuit pack with passive components (resistors & capacitors) used to provide proper terminations to 32-bit address/data multiplexed inter-processor bus (IPB) signals across the common control section of the backplane in the NT9D11 Core/Network Module.

The Inter-Processor Bus (IPB) is a high performance bus which replaces the CE bus in the Option 61. IPB supports the following features:

- It is 32-bit wide address-data multiplexed bus based on the protocols of IEC821 VSB bus and permits multiprocessor communication.
- It supports dynamic bus transfer for efficient communication with 8, 16 or 32 bit peripherals.
- It supports live insertion and removal of cards without affecting other cards on the bus.
- It also facilitates auto-identification of devices inserted on a live bus. Cards in each slot have access to a unique Shelf/Slot ID to allow cards to be geographically identified.
- It is designed for the anticipated needs of multiprocessing, high-speed I/O, large memory banks, and system expandability.

Input-Output Processor (NT6D63)

The Input-Output Processor (IOP), occupies two adjacent slots in the Core Module, provides interfacing capability to the I/O devices required by the Meridian 1 system. It provides the following features:

- Uses an on board Motorola 68020 microprocessor to support data I/O operations.
- The MC68020 operates at 16 MHz with 512 Kbytes of SRAM and 128 Kbytes of Programmable-Erasable Read-Only memory (PEROM).
- Communicates with the Call Processor (CP) card over the Inter-Processor Bus (IPB).
- Provides the interface between Core Multi Drive Unit (CMDU) and the Call Processor (CP) card.
- Provides the same functions of the QPC584 Multi Disk Interface (MSI) card by providing a SCSI interface connection and access to CMDU.
- It uses the Security Data Cartridge (QMM42), used on the QPC584 MSI card, for secure data access from the mass storage device.
- The QMM42 mounts on the IOP card.
- Supports card-ID, which provides the card type, NT code, serial number, and any other relevant data for the particular card.
- Will have one HEX display for status codes

Multi Drive Unit (NT6D64)

The Core Multi Drive Unit (CMDU) provides the mass storage needs of the Meridian 1 replacing the Mass Storage Unit used on the Options 51/61. It is used to load the programs and office data into the system memory. The CMDU occupies three adjacent card slots in the Core Module and requires 5V and 12V from the module.

On the Option 61C each Core Module is equipped with a CMDU. This allows hard disk redundancy with one of the CMDUs being active at a time, and the other CMDU is in standby. During disk writes, the data will be written to the active CMDU and then to the stand-by CMDU, this redundancy provides a way for the system to recover and continue operation in case of a disk I/O error.

Each CMDU is controlled by an I/O Processor (IOP) card. Card-ID from the CMDU pack is implemented indirectly by storing this information on the hard disk drive and will be accessible over the SCSI bus thru the IOP card.

The CMDU features:

- One 3.5" super high density floppy drive for loading programs on the hard disk and for data base back-up on 2.88 Mbyte (4 Mbyte, unformatted) floppy diskettes.
- A 3.5" 245 Mbyte hard disk drive with a SCSI interface.

Core to Network Interface card (NT6D65)

The Core to Network Interface (CNI) card provides a protocol conversion between the IPB bus in the Core section and the CE bus on the 3PE side. The CNI pack provides an interface from the IPE bus to the networks facilitating communication between the Call Processor and network cards. The CNI card in slot 12 interfaces with the QPC441 Three-port Extender (3PE) in slot 11 of the network section via backplane busing, no cable is used. The 3PEs in each Core/Network Module are cabled together allowing the active IPB bus to be extended to both halves of the network group. The CNI card supports Card-ID, which provides the card type, NT code, serial number, and any other relevant data for the particular card.

Call Processor card (NT6D66)

The Call processor (CP) card is the main processor in the Meridian 1. The CP card executes all call processing software. The CP card uses three new ASICs (Application Specific Integrate Circuits) that combines the functions of the CPU Function, CPU Interface, Changeover and Memory Arbitrator, and ROM cards previously used, into a single board. The CP card is based on a Motorola 68030 32-bit, 33 MHz microprocessor. The single board design allows speed improvements and higher performance beyond the multiple boards architecture used in other Meridian 1 options.

One Call Processor card, occupying two adjacent card slots, is equipped in each Core/Network Module. In the Option 61C two CP cards are cabled together providing memory shadowing and dual CPU operation for redundancy similar to the two CMAs packs used with the Meridian 1 Option 61.

The CP card provides on-board memory up to a maximum of 48 Mbyte of dynamic RAM thru the use of 16 Mbyte Single Inline Memory Modules (SIMM). There will be six (6) slots provided on the CP card for SIMMs. The number of SIMMs equipped on the CP card will be configured at the factory. The CP card will be shipped with three slots configured with 16 Mbyte SIMMs for a total memory capacity of 48 Mbytes. The CP card can also accommodate future SIMMs to provide up to 96 Mbyte memory capacity by equipping the CP card with six 16-Mbyte SIMMs.

all Processor card has the following features:

Interfaces with the high performance, 32-bit address/data multiplexed Inter-Processor Bus in the Core Module.

A system time-of-day clock

Dual serial data interface (SDI) port for maintenance and administration purposes. One port is used as a standard SDI port, the other port is for debug purposes.

Provides a 2 Line X 16 character liquid crystal display (LCD) on the faceplate.

Meridian 1 Option 61C Cabling

The Option 61C will employ existing Meridian 1 cabling. Face-plate cable connections to the Option 61C circuit packs located on the right side of the Core shelf will be eliminated. Instead, all cable connections from the circuit packs will be provided over a portion of the backplane connector. Cables needed for the Core/Network Modules are listed below in Table 2 and shown in figures 2, 3 and 4.

Table 2 - Cables for Option 61C Core /Network Module

Cable	Quantity	Description	Figure References
NTND11BA	2 per CP pair	CP to CP	Figs. 2 & 4 (A)
NTND13BC	1 per IOP pair	IOP to IOP	Figs. 2 & 4 (B)
NT7D89CA	1 per CP	CP to I/O panel ("Y" - RS232)	Figs. 2 & 4
NT8D80BZ	2 per system	3PE to 3PE	Figs. 3 & 4 (D)
NT8D79AB/AF	2 - 4 per system	CC to PRI	Figs. 3 & 4 (E)
NT8D99AB	2 per system	"D/E" cables for Network PCM & clock distribution between Core/Net. Modules (Net. 0 & Net. 1)	Figs. 2 & 4 (F)
NT8D75AC/AD	1 per system	CC to CC	Figs. 3 & 4 (G)
NT8D46AG	1 per system	SM to SDI Paddle Board	Fig. 4(H)
NT8D84AA	3 - 7 per system	SDI Paddle Board to I/O	Fig. 4 (I)

Note that inter-module connections are not applicable to Meridian 1 Option 51C.

Solution ID: NORT217309
08/10/2005

Product Family: Enterprise Voice

Create Date:

Title: Outlook integration not working.

Facts:

Outlook 2003
4.01.28
4.02.01
Outlook Forms
Windows XP
ICB

Symptoms:

- Outlook integration not working.
- Outlook forms not working.
- Error: ICB Outlook form not found. Please publish the correct form (s) or contact your system administrator.
- Unable to schedule conference from Outlook.

Cause:

The file extension was being published with the file name (for example: icbs.oft; ocbf.oft).

Note: You must use files that are the same release as the MICB card. It's best to use files from card, not web site.

Fix:

Follow these steps:

1. FTP files from MICB:

```
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.
C:\Documents and Settings\sherrya.HNETNT>ftp
ftp> open 172.16.1.254
Connected to 172.16.1.254.
220 172.16.1.254 pSOSystem FTP server ready.
User (172.16.1.254:(none)): micb
331 Password required for micb.
Password:
230 User micb logged in.
ftp> ls -l
200 PORT command successful.
150 Opening ASCII mode data connection for ..
FUPGRADE.DAT          235
UPGRADE.DAT           136
IESTART.TXT           18
NUPGRADE.DAT          158
MAINBA01.ABC          4010234
USER                  <DIR>
TUI                   <DIR>
ROMBANKS              <DIR>
OUTLOOK               <DIR>
AC_HTTP              <DIR>
HTTPSrv              <DIR>
GNR                   <DIR>
DSP                   <DIR>
MLAW                  <DIR>
MAINBA02.ABC          4010730
```

```

DSPBKUP          <DIR>
STARTUP.TXT      25
OAM              <DIR>
BACKUP           <DIR>
PORTNAMS         <DIR>
ALAW             <DIR>
CONF             <DIR>
RECURR          <DIR>
TEMP            <DIR>
EMRG_DAT.TXT     7
EMAIL           <DIR>
226 Transfer complete.
ftp: 858 bytes received in 0.00Seconds 858000.00Kbytes/sec.
ftp> cd outlook
250 CWD command successful.
ftp> ls -l
200 PORT command successful.
150 Opening ASCII mode data connection for ..
.                <DIR>
..               <DIR>
ICBF.OFT         107520
ICBS.OFT         451072
OUTLANGS.TBL     661
ICBSJC.OFT       302080
ICBSK.OFT        292352
226 Transfer complete.
ftp: 231 bytes received in 0.00Seconds 231000.00Kbytes/sec.
ftp> binary
200 Type set to I.
ftp> mget icbf.oft
200 Type set to I.
mget icbf.oft? y
200 PORT command successful.
150 Opening BINARY mode data connection for icbf.oft (107520 bytes).
226 Transfer complete.
ftp: 107520 bytes received in 0.08Seconds 1344.00Kbytes/sec.

```

2. Create in exchange server EFORM REGISTRATION->ORGANIZATIONAL FROM LIBRARY
3. Double-click on the icbf.oft file which opens FORMS->CLICK TOOLS->FORMS->PUBLISH FORMS->CLICK ON ORGANIZATIONAL FROM LIBRARY @LOOK IN TAB.
4. Repeat for the language file: icbs.oft

NOTE: When publishing the icbs form, ensure that it is named "icbs", "ocbf" in lower case letters. Do NOT include the file extension. Also, to log successfully into ICB from Outlook, make sure that user access is set to BUI and Outlook.

Product Bulletin

Number: 2000-066

Date: June 2000

MIRAN 2.0.17 Software**Reason for MIRAN 2.0.17**

MIRAN 2.0.17 is only required where customers receive a spare MIRAN II card to replace a faulty MIRAN I card. Customers will not need to install MIRAN 2.0.17 unless they wish to re-use their existing MIRAN I keycode on a MIRAN 2 spare card.

If a MIRAN I card goes faulty and must be repaired, the customer will be supplied with a spare MIRAN II card (NTAG36AC). However prior to the introduction of release 2.0.17 software, the existing MIRAN I keycode will not operate with the new MIRAN II spare cards. Note that MIRAN II spare cards are supplied without a security device, the security device must be removed from existing card and placed in new spare card.

Release 2.0.17 software has been developed to fix this issue so that the customer can now install and fully operate the new MIRAN II card without having to obtain a new keycode.

Where to find MIRAN 2.0.17 software

MIRAN 2.0.17 is available from June 15th 2000 at the following location;

<http://www.nortelnetworks.com/servsup/esd/meridian1/>

- Click on **Meridian Integrated Products** (left Menu)
- Select **MIRAN_II** from Drop Down Menu/Box
- Click on required File/Document name to download

Installation of MIRAN 2.0.17 software

MIRAN 2.0.17 software can be installed on NTAG36AC spare cards before the keycode is entered, hence inventory of MIRAN II NTAG36AC cards can be upgraded without having to obtain new keycode.

After powering up the card, log in and perform the software upgrade, then reset the card. Once the pack is powered up the existing customer keycode can be entered to activate the ports on the new MIRAN II card.

There have been a small number of isolated occurrences where the Miran II card reads the dongle ID incorrectly on card boot up. When this occurs, the card fails to validate the Miran II keycode. The failure has only been seen when an old AA vintage dongle is used. A firmware design change was necessary to resolve this issue. The change was introduced on firmware NTAG45AA, Release 9 - NTAG36AC release 11.

If this problem occurs, check the firmware release in the **Pack Administration / Systems Information** menu on the Miran II terminal. If this does not show **VPS Firmware RIs 9.0** or higher, then a firmware upgrade must be performed. If any assistance is required, please contact your CTS prime.

Procedure for local upgrade of MIRAN 2 Software

This procedure should be used where customers or distributors do not wish to download MIRAN 2.0.17 software directly from web server onto MIRAN card.

Upgrade Procedure for MIRAN 2.0.17 software:

1. Download the 2.0.17 upgrade file from the web. Copy the file to a PCMCIA card.
2. Insert the PCMCIA card into the A: drive.
3. Login to the MIRAN card using the ADMIN userID and password.
4. Select Option 2, Pack Administration from the Main Menu.
5. Select Option 3, Software Upgrade from the Pack Administration menu
6. Browse for the .mms upgrade file on the A: drive.
7. Select Upgrade.
8. When the upgrade has completed, the MIRAN card will return a message "Upgrade Successful".
9. Reset the MIRAN card.

Alternatively, the upgrade file can be FTP'd to the C: drive of the MIRAN card if it is connected a LAN. Follow steps 3-9 above to perform the upgrade. When browsing for the upgrade file in step 6 be sure to select the .mms file from the **C:** drive. Once the upgrade has been completed the .mms upgrade file should be deleted from the C: drive.

For a more detailed description of the upgrade procedure please refer to the NTPs

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NORTEL NETWORKS

CallPilot 150 – how to place upgrade software on a new upgrade card

a) To perform the steps listed in part “b” of this document, you must first have the following hardware available:

- 1) A Windows laptop computer or desktop PC with the hardware capability to accept a PCMCIA/Flash card.
- 2) Must have first ordered/received the required upgrade PCMCIA card (Please order the **Upgrade Card Kit (NTAB9847/A0899143)**, which will allow you to perform a software upgrade to the current PCMCIA software card on your CP150.

Note: It is always wise to do a back up of the CallPilot150, via the BRU utility. **Note:** the backup should be saved to a laptop/computer or to a mapped network drive/server. Also, a backup will retain the key codes of the CallPilot, as well as mailboxes on the system.

b) Please follow the steps listed below for unzipping the CP150 upgrade software on to the spare PCMCIA card used to do the software upgrade:

- 1) Go to the Nortel Networks Norstar support page for Norstar CallPilot150 and download a copy of the zip file “tftp15xxNAEnglishxxxxxx.zip”, which is the new/updated CallPilot 150r1.5 software, from the web site to your desktop/folder of your laptop/computer.
- 2) Place the upgrade card (Upgrade Card Kit (NTAB9847/A0899143)) into a free PCMCIA slot of your laptop/computer.
- 3) Unzip the file “tftp15xxNAEnglishxxxxxx.zip” on to the PCMCIA card by right clicking on the file and then choosing “Extract to...” and then choose to unzip the file to the drive letter of the PCMCIA card.
- 4) To check that the new software has been successfully unzipped to the card, please double click on the given drive letter of the PCMCIA card, via Windows Explorer, to confirm that the following folders and files do exist on the card:

- access2
- f982wui
- ST
- web
- CallPilot.bin
- filelist.lst
- release153203.txt
- TOP_DSP_SE.out

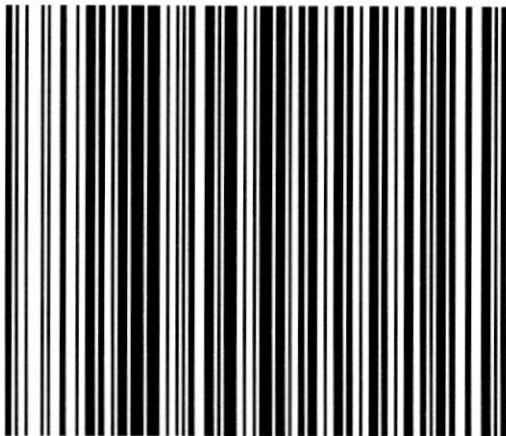
- 5) Before removing the PCMCIA card from your laptop/computer, please note that you must first "Stop" the device, via the PCMCIA controller, to avoid corrupting the new upgrade software on the PCMCIA card.
- 6) Eject the upgrade PCMCIA card from your laptop/computer.
- 7) For precise instructions and the proper steps to be taken, when upgrading the software card on your CP150, please see the "**CallPilot Mini/CallPilot 150 Installation and Maintenance Guide**" and go to **Chapter 9(Upgrading CallPilot Mini/CallPilot 150)** and look under the section titled "**Upgrading the CallPilot software version**". **Note:** the steps mentioned below are a rough guideline only.
- 8) Remove power to the CallPilot150. **Note:** please make sure that a backup has previously been done for the CP150, via the BRU utility, before continuing with the next few steps.
- 9) Please keep the original PCMCIA card in the rear/bottom PCMCIA slot.
- 10) Insert the second/upgrade PCMCIA card, which contains the new CP software, into the front/top PCMCIA slot of the CP150.
- 11) Power up the CallPilot150.
- 12) Once the CallPilot150 boots up, please check to make sure VM is up by doing a Feature 983 via a telset on system.
- 13) Do a restore to the CP, if you desire to maintain all key codes and previous programming.

Note: If there is an issue with the VM(F983) not coming up, after a reasonable amount of time and the Feature 983 shows as inactive, please perform a "F**XFTEST". Then test and remove any feature codes that list as "inactive". The CallPilot must then be rebooted.



**CallPilot Mini Desktop Messaging Capability
Authorization Code - 5 Users**

A0884383
NTHY03AA
Release 001



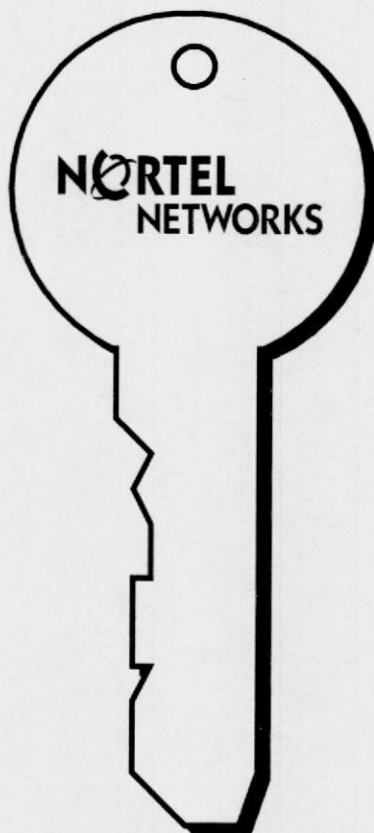
A0884383-001

1-800-4 NORTEL
www.nortelnetworks.com
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Do not discard !

Important Software Keycode information enclosed.
Do not discard any of the enclosed documents.



DATE: DECEMBER 1999

MANUFACTURE DELIVERED CUSTOMER SOLUTIONS (MDCS)

GENERIC X11 RELEASE 23.55 MDCS06

GENERAL RELEASE DOCUMENT (Large Systems Only)

This document contains additional information specific to X11 Release 23.55 MDCS06. All previous documentation as well as advisements, and descriptions of unresolved problems on X11 Release 23.55 are still applicable. Any of the X11 Release 23.55 MDCS06 specific information contained in this document is applicable to **LARGE systems only** [51C (CP1/CP2/CP3/CP4), 61C (CP1/CP2/CP3/CP4), 81, 81C (CP1/CP2/CP3/CP4) supported on X11 Release 23.

For large system information on feature content, software packages and dependencies, and software upgrade procedures, refer to the Release 23 NTPs.

**PLEASE READ ALL ENCLOSED MATERIAL BEFORE
INSTALLING THIS SOFTWARE.**

SECURITY WARNING □

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X11 Release 23.55 MDCS06 System Advisements

This document contains information that is unique to X11 Release 23.55 MDCS06 update disks. The X11 Release 23.55 General Release Document (PO890902, Issue 1.0, 7/99) should also be used in conjunction with the X11 Release 23 NTPs. Please refer to this document for detailed information regarding advisements and enhancements to X11 Release 23.55.

We recommend loading these disks in all systems.

MDCS OVERVIEW

Manufacture Delivered Customer Solutions (MDCS) for large systems are available with Generic X11 Release 23.55. Customer solutions, in the form of patches (PEP's) are being provided via software on additional update diskettes (standard 2 Meg).

The MDCS diskettes will automatically be shipped with new/upgrade orders. There are no separate ordering codes needed.

The X11 Release 23.55 MDCS06 update diskettes may contain both globally applicable and market region specific patches. To differentiate between the market regions, MDCS update disks will be labeled appropriately with one of the following region designation codes:

AP – Asia/Pacific

CA – Caribbean & Latin America

NA – North America

The Manufacture Delivered Customer Solutions process will ensure that X11 Release 23.55 and later software is optimized for the highest quality performance when delivered. When utilized, the MDCS process allows Nortel Networks to provide critical system-wide solutions to Meridian 1 customers in a shorter interval.

After the appropriate X11 software is installed (or upgraded), the software on the MDCS diskette can easily be loaded in the Meridian 1 system with user-friendly commands. Installation personnel can expect to save up to 1 hour by utilizing the MDCS process versus conventional patch installation techniques (e.g. serial loading).

The MDCS process streamlines the delivery of software solutions, reduces customer installation downtime and assures customer needs are met in a timely and cost effective manner.

The Release 23 MDCS06 update disk delivers 23 Manufactured Delivered Customer Solutions (refer to Page 4).

SYSTEMS SUPPORTED

X11 23.55 MDCS06 is available for large systems only as follows:

- § 51C (CP1/CP2/CP3/CP4) with CMDU, IOP/CMDU (NT5D20AA) or IODU/C
- § 61C (CP1/CP2/CP3/CP4) with CMDU, IOP/CMDU (NT5D20AA) or IODU/C
- § 81, 81C (CP1/CP2/CP3/CP4) with CMDU, IOP/CMDU (NT5D20AA) or IODU/C

Note: MDCS treats CP3 and CP4 as identical and only one diskette is used to manage both CP types.

GENERIC X11 SOFTWARE UPGRADE/NEW INSTALLATION PROCEDURES

There are **no changes** to the X11 software customer upgrade or installation procedures. Please refer to the X11 Release 23 General Release Bulletin (PO890902), Issue 1.0, 7/99) and X11 Release 23 NTP's for instructions on upgrading and installation.

X11 RELEASE 23.55 UPGRADE ORDERS

As of December 20, 1999, the X11 Release 23.55.06 diskette will be shipped with all X11 Release 23.55 upgrade orders.

EXISTING INSTALLED PATCHES

If your system currently has patches installed, the installation of X11 Release **23.55 MDCS06 software will remove all existing patches at your site.** After installing the MDCS06 update disks, any patches previously loaded on the system may need to be reinstalled as required. If you have any questions, please contact your appropriate CTS Center for assistance prior to installation of X11 Release 23.55 MDCS06 software.

If your system has MPLR11474 (DPNSS International patch) installed, you must manually uninstall the parts of the patch in a specific order. If applicable, please read the following:

DPNSS Patch Install/Uninstall Issue

If MPLR11474 (an International DPNSS patch) is installed at your site, **you must manually** uninstall the parts of the patch in the following order:

1. p11474b then
2. p11474a.

If p11474a is removed prior to p11474b, an initialization may occur. The patch must be uninstalled prior to loading the X11 Release 23.55 MDCS06 software.

If your system only had part of MPLR11474 then you do not need to reinstall MPLR11474 after loading X11 Release 23.55 MDCS05. MPLR11541 provides the functionality of MPLR11474 part a.

However if your system had part b of MPLR11474 (p11474b) installed prior to loading MDCS05, then you must perform the following steps:

- a. Remove MPLR11541 (MPLR11541 is part of X11 Release 23.55 MDCS05),
- b. Install MPLR11474 part a, and then
- c. Install MPLR11474 part b.

If you install part b of MPLR11474, then you CANNOT use the uninstall command without manually removing part b first. Any attempt to uninstall MPLR11474 part a prior to MPLR11474 part b may result in an initialization of the system.

CALLPILOT PROBLEM

A site may experience a situation where CallPilot agents can not be activated.

Workaround:

Perform a manual initialization (or TRP command in PDT).

X11 RELEASE 23.55 MDCS06 CONTENT

The Generic X11 Release 23.55 MDCS06 provides 22 Manufacture Delivered Customer Solutions, applicable to all regions, resolving the following problems:

PRSID	Patch #	Description
BV81626	MPLR11277	When answering an abandoned call from a CLASS set

		with Visual Message Waiting Indication, the Meridian 911 agent (non-CLASS set) will receive continuous tone until they answer or make another call.
BV81036	MPLR11283	Meridian 2317 sets softkeys do not work when using CallPilot mail.
BV81112	MPLR11315	Using CallPilot if you conference another party into your mailbox and then release, that party will be able to stay in your mailbox. The system will produce BUG0115.
BV80991	MPLR11322	Analog sets cannot initiate a conference to CallPilot .
BV81900	MPLR11321	A station or trunk call which attempts a thru-dial in CallPilot is access restricted from completing the merge if the outgoing thru-dial is an ISA trunk.
BV81899	MPLR11317	Dial 0 functionality is access restricted if the originating user is no a different switch to CallPilot and the call sender party is on the local switch.
BV81898	MPLR11298	If a remote set rings across MCDN, terminates at a local attendant, is extended to CallPilot , and the attendant releases then CallPilot reacts as if two consecutive transfers have taken place.
BV82029	MPLR11385	If an attendant is extending a caller to a Symposium CDN then the IVR treatment will not be given until the attendant has released. Caller may not hear the entire IVR message.
BV81170	MPLR11402	BUG0195 messages are being generated after conference involving CallPilot port and digital sets.
BV82440	MPLR11498	The CallPilot application would not activate unless both the ICCM 311 and NMCE 364 packages were equipped. CallPilot does not depend on package 311. (See CallPilot Issue: in the Advisement section if you experience this problem).
BV82417	MPLR11541	Patch insertion on systems with CP2/CP3/CP4 may result in bus errors and warm starts (not a problem on CP1 systems).
BV80923	MPLR11388	Attendant is unable to enter digits to access mailboxes when established on an IVR session with CallPilot . Attendant can enter digits if using EES key.
BV82707	MPLR11617	On X11 Release 23 systems with CP4 , occasionally the real time clock will stop after a switchover from overlay 135 (either manual or through midnight routines). This problem does not occur on every switchover. This issue has been resolved in X11 Release 24 and above (reference BV81044).
BV82303	MPLR11496	When an attendant extends a digital call to CallPilot using CDN and IVR, the system responds with BUG4006.
BV79730	MPLR10734	INI due to bad pointer in SET_OUTG_TIMER
BV77314	MPLR10442	Hunting stops working
MPO3592	MPLR12536	CP4 goes from normal mode to split mode
BV82989	MPLR12536	Hard disk accessing failure from CP

BV82724	MPLR11830	Incorrect time stamp for files on Feb 29, 2000
BV83375	MPLR12369	INI due to too many POVL1 file descriptors opened
BV75533	MPLR10895	Stat CNI can stop I/O device operation
BV82940	MPLR11890	BCS lamp requires defensive code

Since the X11 Release 23.55 MDCS06 included additional non-CallPilot solutions, we recommend loading these disks in all systems. The CallPilot solutions will not have an adverse effect on any non-CallPilot sites.

MDCS RETRIEVAL

North America

If you have attended a CTS Patch Class, you can access the CTS Electronic Bulletin Board (BBS) which provides instructions for retrieval and installation of the X11 Release 23.55 MDCS06 diskette.

Distributors without access to the CTS Bulletin Board Service should contact their appropriate CTS Account Manager for assistance in obtaining the X11 Release 23.55 MDCS06 diskette.

CALA

CALA Distributors and Telcos should review the X11 Release 23.55 MDCS06 Content List included in this document to verify the need of one or more of the patches on the MDCS disk. If the Channel determines that a MDCS patch is needed on the system, please use one of the following procedures to load the MDCS patch diskette:

1. Authorized CALA PDT users should follow the "MDCS Update Disk Installation Procedure" that is included in this Bulletin to execute the MDCS06 Install Program.
2. CALA Channels that are **not authorized PDT users** should contact their regional CALA CTS organization for the implementation of the patch solutions.

MDCS Update Disk Install Procedure

STOP --- Prior to loading X11 Release 23.55 MDCS05, please refer to Page 4, "DPNSS Patch Install/Uninstall Issue", then proceed with the following steps:

1. Complete the upgrade/installation of the X11 software and let the system run midnight routines.
2. Go into Overlay 22 and issue the ISS command. From the resulting display, identify the CP type from the following list:

<u>Machine Type</u>	<u>CP Type</u>
1611 = 81/81C	CP1
1711 = 51C	CP1
1811 = 61C	CP1
1911 = 81/81C	CP2
2111 = OPTION 11C (small system – not applicable to large systems)	
2211 = 51C	CP2
2311 = 61C	CP2
2411 = 51C	CP3
2511 = 61C	CP3
2611 = 81/81C	CP3
2811 = 51C	CP4
2911 = 61C	CP4
3011 = 81/81C	CP4

Note: MDCS treats CP3 & CP4 as identical and only one diskette is used to manage both CP types.

- From step 2, insert the correct CP type (see example on Page 12 “MDCS Diskette Label Format”) MDCS update diskette into either the /f0 or /f1 drive.

Care must be taken when installing the MDCS diskette at your site. The correct call processor type must be used.

Note: Ensure that the X11 software version of the MDCS diskette’s label matches the X11 software version used for the upgrade/installation performed in step 1.

- Enter into 1st level PDT (level 1 password is required)
- Run the MDCS script with the install option as follows:

```
pdt> mdc install
```

The install script will:

- Prompt for confirmation to continue
 - Put out of service and remove from memory any patches currently loaded on the system, and
 - Load and install all patches contained on the MDCS diskette.
- Exit PDT. Load Overlay 22 and type ISSP. The MDCS patches and MDCS version will be displayed (see example on Page 11 “Overlay 22, ISSP Command”).
 - Remove the MDCS diskette from the drive.

System patches may now be re-installed (if applicable).

NOTE:

1. If the TTY does not echo, then you can check the patch information using the overlay 22 ISSP command.
2. The MDCS script will terminate immediately if it encounters any problems. An "Incomplete" message will be displayed in overlay 22 during the ISS/ISSP command (see Page 12 for details).

MDCS Update Disk Install Example

The following example shows the commands and system messages during the installation of a X11 Release 23.55 MDCS_{xx} _{aa}00 update disks for a CP_y switch. Texts appearing in **bold** are commands entered by the user. Texts appearing in *"(italics)"* are editorial comments.

For the examples:

xx = version of MDCS

aa = region

y = Call Processor (1,2,3 or 4)

w = number of patches loaded minus 1.

In the following example, the switch had no patches in service before the install script was executed:

```
pdt> mdcs install
```

```
Install will deactivate and remove all patches from system memory,  
and install new patches!!!
```

```
Do you want to proceed with the install (y/n)? [y] y
```

```
Printing current status of patches
```

```
-----  
System has no loaded patches.
```

```
Deactivating all patches on system
```

```
-----  
0 patches on system deactivated.
```

```
Removing all patches from system memory
```

```
-----  
0 patches removed from memory.
```

Erasing all files from /u/mdcs

...
Erasing all files from /u/patch/psdl

...
Copying patch files from /f0/pins to /u/mdcs

copy from /f0/pins/p11283.cpy to /u/mdcs/p11283.cpy - 4232 bytes
copied.

(You will see one copy line per patch to be installed)

Loading patch files in /u/mdcs

Loading patch from "/u/mdcs/p11283.cpy"
Patch handle is: 0

*(You will see one loading and patch handle line per patch to be
installed)*

w patches have been loaded.

Activating all loaded patches

Modifying a longword at 0xbc3d086 from 0x0 to 0x461e4fe
Modifying a longword at 0xbc3d074 from 0x0 to 0x461e1b8
Modifying a longword at 0xbc3cff0 from 0x0 to 0x4625d04
Modifying a longword at 0xbc3ce6e from 0x0 to 0x461e4fe
Modifying a longword at 0xbc3ce5c from 0x0 to 0x461e468
Modifying a longword at 0xbc3cd02 from 0x0 to 0x461e4fe
Modifying a longword at 0xbc3cce0 from 0x0 to 0x461e1b8
Modifying a longword at 0xbc3cc58 from 0x0 to 0x461e3f2
Modifying a longword at 0xbc3cc48 from 0x0 to 0x461e468
Modifying a longword at 0xbc3cc12 from 0x0 to 0x461e0de
Modifying a longword at 0xbc3cbbe from 0x0 to 0x461e4fe
Modifying a longword at 0xbc3cbac from 0x0 to 0x461e468
CMD_ESTABLISHED at 0x461dad8 will be patched to jump to
0xbc3caf8
Patch 0 has been activated successfully.

(Information like seen above will echo per patch installed)

w patches on system activated.

Copying patch files from /f0/poos to /u/mdcs

Copying patch files from /f0/psdl to /u/patch/psdl

Copying swname files from /f0/swname to /u/patch/reten

12 bytes copied.

INSTALL ROUTINE COMPLETED SUCCESSFULLY

**SYSTEM PATCHES MAY BE REINSTALLED (IF
APPLICABLE).**

MDCS Update Disk Uninstall Procedure

STOP --- Prior to using the Uninstall command in X11 Release 23.55 MDCS05, read DPNSS Patch Install/Uninstall Issue on Page 1, then proceed with the following:

An MDCS disk uninstall should only be done when you want to return to the base software. You will remove **ALL** the patches from your system with this command. **All MDCS and any other patches that are installed on your system will be removed.**

During the uninstall, the MDCS diskette is required to be inserted in the drive. The MDCS script which performs the uninstall is contained on the disk.

**REMEMBER TO REINSTALL PREVIOUSLY LOADED PATCHES (IF
APPLICABLE)**

MDCS Update Disk Uninstall Example

The following example shows the commands and system messages during the uninstall of a X11 Release 23.55 MDCS_{xx} _{aa}00 update disks for a CP_y switch. Text appearing in **bold** is commands entered by the user. Text appearing in *"(italics)"* is editorial comments.

For the examples:

xx = version of MDCS

aa = region

y = Call Processor (1,2,3 or 4)

w = number of patches loaded minus 1.

pdt> mdcS uninstall

Uninstall will deactivate and remove all patches from system memory!!!

Do you want to proceed with the uninstall (y/n)? [y] y

Deactivating all patches on system

Patch 0 has been deactivated successfully.

(You will see one deactivated line per patch to be installed.)

w patches on system deactivated.

Removing all patches from system memory

Patch 0 has been removed successfully.

(You will see one removed line per patch to be installed.)

w patches removed from memory.

Erasing patch files from /u/mdcs.

remove file /u/mdcs/p11283.cpy

(You will see one removed line per patch to be installed.)

Erasing patch files from /u/patch/psdl.

remove directory /u/patch/psdl

Erasing swname files from /u/patch/reten

UNINSTALL ROUTINE COMPLETED SUCCESSFULLY.

**REMEMBER TO REINSTALL PREVIOUSLY LOADED
PATCHES (IF APPLICABLE)**

Overlay 22 ISSP Command Procedure

The following example is from issuing the ISSP command in Overlay 22, for X11 Release 23.55 MDCS~~xx~~ aa00 update disks for a CPy switch. Text appearing in **bold** is commands entered by the user. Text appearing in "*(italics)*" is editorial comments.

For the examples:

xx = version of MDCS

aa = region

y = Call Processor (1,2,3 or 4)

w = number of patches loaded minus 1.

Overlay 22 ISSP Command

>ld 22
PT2000

REQ issp

VERSION 1911
RELEASE 23
ISSUE 55 + MDCS_{xx} _{aa}00

IN-SERVICE PATCHES : w

PAT#	PRS	PATCH REF #	NAME	DATE	FILENAME
00	bv81036	mdcs_18nov1998	m2317 display	0/0/0	p11283.cpy

(Similar information will be provided per patch.)

REQ end

Note: MDCS treats CP3 and CP4 as identical. Only one diskette is used to manage both CP types.

Installing the Disk for the Wrong Call Processor Type

Note: MDCS treats CP3 and CP4 as identical. Only one diskette is used to manage both CP types.

Care must be taken when installing the MDCS diskette at your site. The correct call processor type must be used. Please note that CP3 and CP4 use the same diskette. If you get the following messages while issuing the ISSP command in overlay 22, please check the diskette label to ensure that you are loading the correct disks.

The following is an example of Overlay 22 display after installing an incorrect MDCS diskette (CP1 into a CP2 system):

⊙ Ld 22
PT2000

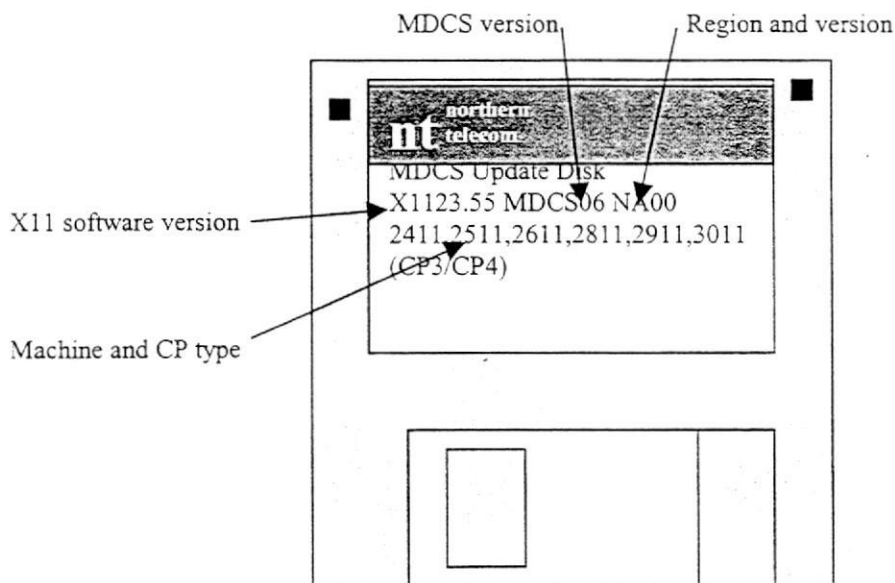
REQ issp
VERSION 1911
RELEASE 23
ISSUE 55+ Incomplete MDCS_{xx} _{aa}00
...

To resolve this issue: simply remove the incorrect disk, replace it with the correct disk for the machine type, and then rerun the install process.

MDCS Diskette Label Format Example

Each MDCS box will contain three diskettes. It is important that you load the diskette that matches your call processor type.

The “MDCS Update Disk” label format contains specific information about the software version for the X11 software and patches. The following example illustrates this format:



Example: MDCS Update Diskette

X11 software version: “X1123.55” indicates the X11 software load that the MDCS Update Disk is compatible with.

MDCS version: “MDCS06” indicates the globally applicable, system-wide patch version of the MDCS Update Disk.

Region and version: "NA00" indicates the region specific patch version of MDCS Update Disk. Region codes are NA – North America, CALA – South America and Caribbean, AP – Asia/Pacific.

Machine and CP type: "2411, 2511, 2611, 2811, 2911, 3011 (CP3/CP4)" indicates the machine and CP type that the MDCS Update Disk contains patches for. The correct CP type MDCS Update Disk must be inserted into the drive when installing the patches.

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Product Bulletin

Product name: M3900 Phase 3

Bulletin number

2001-056

Date

August, 2001

Feature description

M3900 Phase 3 introduces and enhances several features and products for M3900 sets as described below. Phase 3 features and products are planned for delivery with X11 Release 25.40, which at the time of this writing was set for October 29, 2001. This list summarizes features and products in M3900 Phase 3.

- Full Duplex Handsfree Adapter
- One-Button Feature Access
- Corporate Directory Search Enhancement
- System-Initiated Language Selection
- Virtual Office Enhancements
- Set-to-Set Messaging Enhancements
- 31-Digit Dialing
- Call Forward Enhancement
- Pause in Dialing String
- Special Character Support
- M3900 Headset State Support
- M3905 Phase 3 Enhancements
- Secondary DN Dialing
- PC Utility Software for Windows NT/2000
- Computer Telephony Interface Adapter
- TAPI 2.1 Service Provider
- Color name change from Platinum to Ash (Platinum)

These changes and feature additions are described in detail in the pages below:

Full Duplex Handsfree

The Full Duplex Handsfree (FDHF) functionality allows simultaneous two-way communication during a Handsfree call. For Full Duplex Handsfree functionality, you will require an M3904 Phase 3 set equipped with a FDHF cartridge.

The FDHF functionality requires the following hardware:

- M3904 Phase 3 set (NTMN34GA in N.A. Asia Pacific, CALA)
- Full Duplex Handsfree cartridge (NTMN72AA)
- Accessory Connection Module (ACM) (NTMN71AA)
- One of the following wall transformers to power the FDHF cartridge:
 - 110V wall transfer (NTMN80AA)
 - 220V wall transformer (NTMN80BA)
 - EU 230V wall transformer (NTHC08AA)
 - UK 230V wall transformer (NTHC09AA)

To initiate Full Duplex Handsfree functionality there are no new user operation requirements. Follow the existing steps for Handsfree operation in the *M3901, M3902, M3903, and M3904 User Guide*.

One-Button Feature Access

With One-Button Feature Access, users have more direct access to the following:

- Callers List
- Redial List
- Personal Directory
- Corporate Directory

➤ Callers List

M3900 Phase 3 introduces a Callers List soft key and programmable feature key for M3903, M3904, and M3905 sets. Press either the soft key or the programmable feature key to go directly to the new callers in the list.

Note: If there are no new callers in your Callers List, when you press the Callers List soft key or programmable feature key, you go directly to the old Callers List. The default soft key assignment for the Callers List is 27. However, if the system administrator configures a Callers List programmable feature key, the Callers List soft key is automatically removed. If necessary, the system administrator can add the soft key back on the predefined soft key number.

Password protection applies to One-Button Feature Access to the Callers List. If the password is enabled, when you press the Callers List soft key, a prompt appears requesting password entry. Once you enter the correct password, you can access the "new" Callers List.

➤ Redial List

M3900 Phase 3 introduces a Redial soft key and programmable feature key for M3903, M3904, and M3905 sets. Press either the soft key or the programmable feature key to go directly to the Redial List.

The default soft key assignment for the Redial List is 28. However, if the system administrator configures a Redial List programmable feature key, the Redial List soft key is automatically removed. If necessary, the system administrator can add the soft key back on the predefined soft key number.

Password protection applies to One-Button Feature Access to the Redial List. If the password is enabled, when you press the Redial List soft key, a prompt appears requesting password entry. Once you enter the correct password, you can access the Redial List.

➤ **Personal Directory**

With M3900 Phase 3, press the Directory/Log fixed feature key to access the Personal Directory on M3904 sets. On M3905 sets, press the DIR/LOG self-labeled programmable feature key. You do not have to press the Select key after pressing the Directory/Log or DIR/LOG key. Once you press the Directory/Log or DIR/LOG key, you can immediately begin a search using the dial pad keys, provided that Personal Directory was highlighted in the selection list.

Note: M3900 Phase 3 allows you to perform a three-letter search in the Personal Directory.

➤ **Corporate Directory**

Press the Applications key to access the Corporate Directory on M3903, M3904, and M3905 sets. With M3900 Phase 3, you do not have to press the Select key after pressing the Applications key. Once you press the Applications key, you can immediately begin a search using the dial pad keys, provided that Corporate Directory was highlighted in the Applications selection list.

Corporate Directory Search Enhancement

The Corporate Directory Search Enhancement introduces the Resume soft key to the Corporate Directory screens of the M3903, M3904, and M3905 sets. The Resume key allows you to return to the Corporate Directory Find screen to enter additional characters and to continue your search without starting over from the beginning.

The Resume key appears on the following Corporate Directory screens:

- List view
- Card view
- No matches found

When you press the Resume soft key, the Corporate Directory Find screen returns with the information that you previously entered. The cursor is placed after the last letter that you entered. You can enter additional letters and then press the Done soft key. This brings you to a new point in the directory.

System-Initiated Language Selection

With the System-Initiated Language Selection feature, the system administrator can define a default language on a customer basis for M3902, M3903, M3904, and M3905 sets. The default language defined by the system administrator applies to all new M3900 sets configured for the customer group.

When the system administrator configures a new M3900 set, the default language is sent to the set as part of the key map download. If necessary, the system administrator can override the system default.

If the user changes the default language for their set, the new language selection is uploaded to the Meridian 1 system. The new language selection overrides the system default language configured for the Terminal Number (TN).

This functionality allows Virtual Office workers to store their language selection on the Meridian 1 system. When the virtual worker logs in to a host set, the language selection changes to the language defined for the virtual worker.

Virtual Office Enhancements

> Clearing of the Callers List and Redial List

With M3900 Phase 3, the Meridian 1 system clears the Redial and Callers lists when a virtual office worker logs in or out of an M3903 or M3904 Host set. The system administrator configures this functionality by defining Class of Service as Erase List Allowed (ELA) in Overlay 11 for the M3903 or M3904 Virtual set. When the ELA Class of Service is defined, the Callers List and Redial List are automatically cleared when the virtual worker logs in or out.

> Clearing of the Directory Services Password

With M3900 Phase 3, the Meridian 1 system clears the Directory Services password when a virtual office worker logs in or out of an M3903 or M3904 Host set. The system administrator configures this functionality by defining Class of Service as Erase List Allowed (ELA) in Overlay 11 for the M3903 or M3904 Virtual set.

This Clearing of Password functionality allows multiple virtual workers, using the same host set, to have access to password-protected features if one of the users sets the password and does not turn it off when they log out.

> Automatic Logout for Virtual Office

M3900 Phase 3 introduces automatic logout for virtual workers. If a virtual worker, who is already logged on to Set A, tries to log on to Set B, the system automatically logs the virtual worker off Set A and logs them on to Set B (provided that the virtual worker enters the correct login password). The system administrator enables this functionality in Overlay 15 at the Virtual Office Automatic Logout (VO_ALO) prompt.

The system administrator can also define a time at which all virtual terminals are automatically logged out. The system administrator configures the automatic logout time at the Virtual Office Automatic Logout Time (VO_ALOHR) prompt in Overlay 15.

If the set is busy at the automatic logout time (for example, if the virtual worker is using Corporate Directory or Set-to-Set Messaging), it is not logged out until it becomes idle.

Note: If a user logs in to a virtual set after automatic logout, the set does not automatically log out a second time.

> Speed Call for Virtual Office

With M3900 Phase 3, M3900 sets support Speed Call (SCU/SCC) and System Speed Call (SSU only) on Virtual Terminal Numbers. With M3900 Phase 2 the configuration of the speed call features on a virtual TN was prohibited.

> Virtual Office Login Enhancement

The Phase 2 M3900 Virtual Office Feature only allowed one Virtual Office user to log on at a time. If two or more users attempted to login to Virtual Office at the same moment, the system only processed the login information for the first user. The other users received a "System busy, try later" message. The user attempting to logon then had to wait a moment and try to login again.

The M3900 Phase 3 enhancement is to increase the number of users that can log on at the same time. When multiple users are logging on, they will be put in queue and they will see a "Please wait..." message until the system is able to log them on. With M3900 Phase 3, up to 60 users can now login simultaneously. If all 60 users login at the exact same moment login could take approximately 30 seconds on an Option 11C and less on larger systems. However, in a more realistic usage of the feature users will log on at least a few seconds to a few minutes apart and the maximum queue size will never be reached and delays will be minimized.

Set-to-Set Messaging Enhancements

Set-to-Set Messaging Enhancements allow the system administrator to predefine ten messages for the M3903, M3904, and M3905 sets. The telephone user can select one of the messages as their set-to-set message. The telephone user can also edit a message before selecting it as their set-to-set message.

When the system administrator chooses the system-initiated language for the M3900 sets, the list of ten predefined set-to-set messages for that language is loaded into memory from the hard disk. When the predefined messages are in memory, the system administrator can customize them for a particular customer group.

Note: Each customer group on the Meridian 1 system can have its own default language and list of predefined set-to-set messages for its end users.

When a set has Set-to-Set Messaging Allowed (STSA) Class of Service defined, the user can select and edit any of the ten messages listed in Table 1. However, only one of the messages is stored as the user's set-to-set message.

The user presses the Up and Down navigation keys to scroll through the list of predefined messages. When scrolling down, the list wraps from message ten to message one. When scrolling up, the list wraps from message one to message ten.

Table 1
Predefined set-to-set messages

Message #	Message
1	Please leave message
2	Back to work
3	In a meeting
4	On a conference call
5	At lunch
6	Busy, call
7	Out of the office today
8	On a business trip
9	Project deadline today
10	Will reply after

With M3900 Phase 3, the Set-to-Set Messaging screen has three soft keys. The ON/OFF key toggles the Set-to-Set Messaging feature on or off. The ON/OFF key only appears if the currently displayed message is saved. The Edit key allows the user to customize the message displayed on the screen. The Select soft key appears only if the currently displayed message is not saved. When pressed, this soft key selects the currently displayed message as the set-to-set message to be stored.

Set-to-Set Messaging Enhancements introduces a Message (Msg) field. This field contains either the number of the displayed message or the word "Saved". The system saves only one message. A message is saved when the user does one of the following:

- highlights a message and then presses Select
- edits a message and then presses Done

Note: When the user performs one of the above, the new message overrides any previously saved messages.

When the user edits a message, the modified message is displayed when the user scrolls through the list. However, if the user then edits another message, that message replaces the previously modified message.

31-Digit Dialing

With the 31-Digit Dialing feature, M3900 display screens accommodate dialing strings of up to 31 digits. This allows the screens to fully display long dialing strings, such as Calling Card numbers and access codes.

The M3902 set has a one-line display. Use the Left/Right Navigation keys to scroll through the digits on the line.

M3903, M3904, and M3905 display screens accommodate 24 characters on each line. For dialing strings greater than 24 characters, the number automatically wraps to the second line.

Table 2 lists the features that support 31-Digit Dialing on M3902, M3903, M3904, and M3905 sets.

Table 2
Features that support 31-Digit Dialing

	M3902	M3903	M3904	M3905
Personal Directory			X	X
Call Log		X	X	X
Redial		X	X	X
Predial	X	X	X	X

Call Forward Enhancement

The Call Forward Enhancement feature modifies the method for activating Call Forward on M3903, M3904, and M3905 sets.

To forward your calls or change the previously stored Call Forward number, perform the following steps:

1. Press the Forward key. The previously stored Call Forward number appears, if one exists.
2. If you want to keep the previously stored Call Forward number, press Done.
3. Enter the new Call Forward number. When you start to enter the new number, the initial Call Forward number automatically deletes.

Note 1: You can use the Delete key to delete each digit in the Call Forward number shown. To edit the number, use the Left or Right Navigation keys to move the cursor.

Note 2: A Cancel key also appears. Press the Cancel key to exit without changing the previously stored Call Forward number.

4. Press Done.

Pause in Dialing String

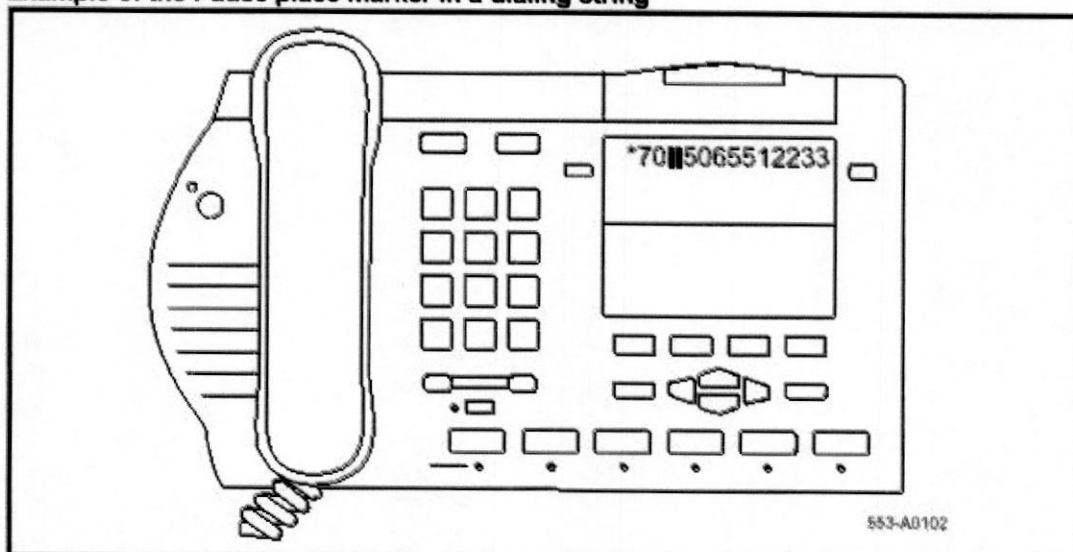
With M3900 Phase 3, M3902, M3903, M3904, and M3905 sets support a pause in dialing. This pause is often required when a user dials remote devices, such as answering machines, Interactive Voice Response (IVR) systems, auto attendants, and tandem switches.

The Pause feature enters a 1.5-second delay in a dialing sequence. The user can add the delay while programming or editing an entry in the Personal Directory, Callers List, Redial List, and Predial List.

This feature introduces a Pause soft key. To enter a Pause in the dialing string while editing a number, press the Pause soft key. A Pause place marker appears in the dialing string. The place marker appears as two parallel bars, and takes up one space in the dialing string.

Note: You can enter multiple pauses for longer delays.

Figure 1
Example of the Pause place marker in a dialing string



Special Character Support

With M3900 Phase 3, M3902, M3903, M3904, and M3905 sets support all special characters found on a PC keyboard. Special character support allows a user to input special characters when using the edit mode in the Personal Directory and Set-to-Set Messaging. For example, a user can enter a name with an accent in their Personal Directory (for example, José).

The special character set includes all characters from the extended portion of the ASCII character set for your set's current language. To select a special character during the edit mode, press the Up Navigation Key to access special characters you may want to include in the label. Use the Navigation Keys to locate the character you want to include. Press the Select Key to choose the highlighted character. Press the Return Key to return to label entry without selecting a special character. The special character set contains up to 130 characters. It is displayed in six lines with 24 characters on each line.

The special character set does not include upper and lower case letters or numerals. Use the keypad of the set to define these characters.

M3900 Headset State Support

With the current Phase 1 and Phase 2 M3900, the headset feature key and the corresponding headset jack are not supported on M3903 and M3904 sets when Handsfree is disabled. With M3900 Phase 3, for the headset to operate, the system administrator no longer has to set the Class of Service to Handsfree Allowed (HFA) in Overlay 11.

M3905 Phase 3 Enhancements

Phase 3 M3905 delivers these M3900 Phase 2 features to the M3905 set:

- Context Sensitive Keys
- Personal Directory, Call Log and Redial lists
- Corporate Directory
- Set-to-Set Messaging
- Display Based Expansion Module (DBA)

Phase 3 M3905 also delivers M3900 Phase 3 features to the M3905 set:

- Call Forward Enhancements
- Password Clear
- Pause in Dialing String
- 31 Digit Predial
- Special Characters
- CTIA Accessory
- Refined Corporate Directory Search
- One-button Feature Access Keys
- Set-to-Set Messaging Enhancements
- System Initiated Language Selection
- Display-Based Accessory Module

Secondary DN Dialing

With Phase 2 M3903 and M3904 telephones you could not use the "Dial" soft key to dial out of the Call Log, Personal Directory, Redial List, and Corporate Directory if you were already using your primary DN. With Phase 3 M3900, the "Dial" soft key on the M3903, M3904 and M3905 can now be used to dial out on a secondary DN if you have one configured on your set.

When you are on a call on the primary DN and you want to dial a number from your Call Log, Personal Directory, Redial List, or Corporate Directory on a Phase 3 M3903 or M3904, you must first place the primary call on hold unless your system administrator has allowed the Automatic Hold Class of Service. Then you can then press the secondary DN and press the "Dial" soft key. Any attempts to dial out on the busy primary line will produce a message that says: "Unable to dial," "Busy Primary line."

On a Phase 3 M3905 configured as an ACD set, a call can never be placed though the primary DN since this key is configured as an "Incalls" key. Here you must first place the Incalls key on hold if it has an active call. If the system administrator has allowed the Automatic Hold Class of Service the call will be placed on hold automatically. You must then press the secondary DN and press the "Dial" soft key. Any attempts to dial out on the busy primary line will produce a that says: "Unable to dial," "Busy Primary line."

PC Utility Cartridge

The Personal Directory PC Utility provides a faster, easier way to create or modify a Personal Directory for an M3904 and Phase 3 M3905 Meridian Digital Telephone. You can enter names and numbers into a Personal Directory file on your PC, and download (Program) the file directly from the PC to the M3904/5 telephone through a serial port connection. You can also upload (Read) a directory from an M3904/5 to a PC and modify the directory. No changes to this hardware have been made during M3900 Phase 3; however, the software has been updated.

Simultaneous to the introduction of M3900 Phase 3, the Personal Directory PC Utility Software will now be compatible with Windows NT and Windows 2000 as well as the Windows 95/98 operating system.

PC Utility Software for Windows NT/2000

The updated *Windows NT and Windows 2000* Personal Directory PC Utility Software will now be available to order separately. It can be used if you want to update your current PC Utility Cartridge with the latest version of software, or if you want to purchase a Computer Telephony Interface Adapter (CTIA) and you want to add the Personal Directory PC Utility Software capability. The hardware is the same for both devices. This software will also be delivered with all new PC Utility Cartridge orders.

Computer Telephony Interface Adapter

The Computer Telephony Interface Adapter (CTIA) is a cartridge style accessory with software that enables PC applications to monitor or control the M3900 telephone for first-party call control type applications. It integrates the PC and telephone, allowing you manage calls more effectively using a PC application such as Microsoft Outlook™. The CTIA comes with a TAPI 2.1 Service Provider. The PC software application required to complete the package, such as Microsoft Outlook, is not provided.

TAPI 2.1 Service Provider Software

TAPI compliant applications usually support placing calls, answering calls, holding and un-holding calls, transferring and conferencing calls, as well as other features. However, one of the most important functions of the TAPI Service Provider is interpreting the information that is presented to the telephone set's display and passing that information on to a TAPI application. This is what TAPI 2.1 service provider software does.

The TAPI 2.1 software will now be available to order separately. You can use it to add the TAPI functionality to your PC Utility Cartridge since the hardware for both devices is the same. This software will also be delivered with all new Computer Telephony Interface Adapter (CTIA) orders.

Color Name Change from Platinum to Ash

As a result of user feedback Nortel Networks has decide to change the description of the color "Platinum" to "Ash" starting with M3900 Phase 3 sets. This change is a description change only. The actual color of the Platinum set is not changing and will not be identical to the M2000 series Ash color sets. There will be no NT Code or part number change with the new color description. Phase 1 and Phase 2 sets will continue using the Platinum name until they are retired.

Other changes for M3900 Phase 3

- Updated sales collaterals will be available.
- Keycap kits for either gray or red "Hold" keys will be available for those customers who want to maintain a consistent installed base (the color of the keycap was change from red to gray at the request of customers who were getting it confused with the Release/ "Goodbye" key.)
- A new replacement footstand is available for the Phase 3 M3904 should the footstand that ships with it ever need to be replaced. This footstand can also be used on previous versions of M3903, M3904, and M3905; however, it is keyed to accept the new Full Duplex Handsfree cartridge and if this cartridge is used on any phones previous to the new M3904 Phase 3 set, it will offer inferior Handsfree performance than is provided as with the standard Handsfree with these sets.
- A new KBA footstand is available for the new Phase 3 M3904. The NTMN38AB (Key-based Expansion Module Kit) is a replacement for the current NTMN38AA footstand; however, if the Phase 3 M3904 is used with a Full Duplex Handsfree cartridge, the new NTMN38AB footstand must be used.

Operating/Programming parameters

Full Duplex Handsfree

The receive audio level is attenuated during the FDHF mode while both parties are speaking. Therefore, fluctuations in the receive volume can occur during the FDHF call.

During a call, the FDHF cartridge can be inserted or removed from the ACM without interrupting an established call. If the FDHF cartridge is removed standard Handsfree operation is restored.

Table 3 shows FDHF interoperability with other M3900 cartridges.

Table 3
FDHF interoperability

	MEARI	CTIA	ATA	PC Utility
FDHF	YES See Note below	YES	NO	YES
Note: FDHF works with the MEARI external alerter functionality; however, FDHF does not work with MEARI when a recording device is connected				

One-Button Feature Access

This section contains the operating/programming parameters for those features above that require them.

Follow the assignments listed in Table 4 to configure Context-Sensitive soft keys on M3903, M3904, and M3905 sets.

Table 4
Context-Sensitive Soft Key default assignments

Key number	Feature
17	Transfer (TRN)
18	Conference (A03/A06)
19	Call Forward (CFW)
20	Ring Again (RGA)
21	Call Park (PRK)
22	Call Pickup (RNP)
23	Speed Call (SCU/SCC) or System Speed Call (SSU/SSC)
24	Privacy Release (PRS)
25	Charge Account (CHG)
26	Call Party Number (CPN)
27	Callers List (CLT)
28	Redial List (RLT)

For M3904 and M3905 sets, One-Button Feature Access keys for the Callers and Redial lists cannot be programmed on a Display Based Accessory (DBA) or a Key-Based Accessory (KBA).

System-Initiated Language Download

For the initial system-initiated language download, if the system administrator chooses a language that is not supported by one of the sets, the language selection remains at the default (English). When the system administrator chooses an unsupported language, an error message appears on the TTY.

Set-to-Set Messaging

If the system administrator chooses a language and the file containing the ten predefined messages for that language cannot be found on the hard disk, the list of messages stored in memory will be completely blank. The system administrator can still create a list of customized messages in the same manner as if they were only modifying one or two of the predefined messages.

If during an edit session, the user deletes an entire message and then presses Done, the message reverts to the default message.

Pause in Dialing

The Pause in dialing string feature is not supported for Personal Computer (PC) applications such as the PC-Utility Software.

Feature packaging

M3900 Phase 3 features require the following packages:

- M2000 Digital Sets (DSET) package 88
- Aries Digital Sets (ARIE) package 170
- Set-to-Set Messaging (STS_MSG) package 380
- Corporate Directory (CDIR) package 381
- Virtual Office (VIRTUAL_OFFICE) package 382
- M3900 Phase 3 Productivity Enhancement (M3900_PROD_ENH) package 386 (for Set-to-Set Messaging Enhancements, System-Initiated languages, and One-Button Feature Access)
- M3900 Phase 3 Virtual Office Enhancement (VIRTUAL_OFFICE_ENH) package 387 (for Virtual Office Automatic Logout and for Clearing of Callers List, Redial List, and Directory Services Password)
- No special feature package is required for Full Duplex Handsfree

Feature implementation

Task summary list

The following is a summary of the tasks in this section:

1. LD 11 - Allow the Handsfree Class of Service
2. LD 15 - Assign a default language and customize set-to-set messages.
3. LD 15 - Enable Virtual Office Automatic Logout and configure the automatic logout time for Virtual Office terminals.
4. LD 11 - Configure the Callers List and Redial List keys on Context-Sensitive Soft Keys or a Programmable feature keys.
5. LD 11 - Configure the default language for the M3900 set.
6. LD 11 - Allow or deny the erasing of the Callers and Redial lists for virtual terminals.

LD 11 – Allow the Handsfree Class of Service.

Prompt	Response	Description
REQ:	NEW	Add new data.
	CHG	Change existing data.
TYPE:	3904	M3900 series telephone type. Full Duplex Handsfree functionality requires an M3904 Phase 3 set.
...		
CLS	HFA	Handsfree Allowed. HFD = Handsfree Denied (default).

LD 15 – Assign a default language and customize set-to-set messages.

Prompt	Response	Description
REQ:	NEW	Add new data.
	CHG	Change existing data.
TYPE:	FTR	Features and options.
CUST	xx	Customer number.
...		
DFLT_LANG	(ENG)	English (default)
	FRE	French
	GER	German
	DUT	Dutch
	SPA	Spanish
	ITA	Italian
	NOR	Norwegian
	SWE	Swedish
	DAN	Danish
	POR	Portuguese
	FIN	Finnish
	POL	Polish
	CZE	Czech
	HUN	Hungarian
	JAP	Japanese
	RUS	Russian
	LAT	Latvian
	TUR	Turkish
STS_MSG	(NO) YES	Modify Set-to-Set messages.
MSG 01	<CR>	Keeps current message.
	<text string>	Input the new message to be displayed (up to 24 characters).
...		
MSG 10	<CR>	Keeps current message.
	<text string>	Input the new message to be displayed (up to 24 characters).
REQ:	NEW	Add new data.
	CHG	Change existing data.
TYPE:	FTR	Features and options.
CUST	xx	Customer number.
...		
VO_ALO	(NO) YES	Disable Virtual Office Automatic Logout (default). Enable Virtual Office Automatic Logout.
VO_ALOHR	(0) - 23	Virtual Office Automatic Logout time. Use the 24-hour clock.

LD 11 – Configure the Callers List and Redial List keys on Context-Sensitive Soft Keys or Programmable feature keys.

Prompt	Response	Description
REQ:	NEW CHG	Add new data. Change existing data.
TYPE:	3903H 3904H 3903V 3904V 3905	M3900 series telephone types. M3903 Host set M3904 Host set M3903 Virtual set M3904 Virtual set M3905 set
...		
KEY	27 CLT	Configure Callers List key on a Context-Sensitive Soft Key. CLT and NUL are the only options for KEY 27.
KEY	28 RLT	Configure the Redial List key on a Context-Sensitive Soft Key. RLT and NUL are the only options for KEY 28.
KEY	XX CLT	Configure the Callers List key on an available programmable feature key.
KEY	XX RLT	Configure the Redial List key on an available programmable feature key.

LD 11 – Configure the default language for the M3900 set.

REQ:	NEW CHG	Add new data. Change existing data.
TYPE:	3903H 3904H 3903V 3904V 3905	M3900 series telephone types. M3903 Host set M3904 Host set M3903 Virtual set M3904 Virtual set M3905 set
...		
MLNG	ENG FRE GER DUT SPA ITA NOR SWE DAN POR FIN POL CZE HUN JAP RUS LAT TUR	M3900 language selection. The default is the language selection chosen for the customer in Overlay 15. <i>Note:</i> The user can change the language defined at the MLNG prompt from their set. English French German Dutch Spanish Italian Norwegian Swedish Danish Portuguese Finnish Polish Czech Hungarian Japanese Russian Latvian Turkish

LD 11 – Allow or deny the erasing of the Callers and Redial lists for virtual terminals.

Prompt	Response	Description
REQ:	NEW CHG	Add new data. Change existing data.
TYPE:	3903V 3904V	M3900 series telephone types. M3903 Virtual set M3904 Virtual set
CLS	(ELD) ELA	(ELD) ELA

Compatibility

Note: The word Phase and Release are used synonymously on M3900 sets. For instance, Phase 1 is equivalent to Release 1.

M3900 Phase 3 Feature/X11 Release 25.40 Compatibility Table

Feature	X11 Feature Package	M3902	M3903	M3904	M3905
Call Forward Enhancements	N/A	X	X	X	X
Password Clear	N/A		X	X	X
Pause in Dialing Strings	N/A	X	X	X	X
31 Digit Predial	N/A	X	X	X	X
Special Characters	N/A	X	X	X	X
Refined Corporate Directory Search	N/A		X	X	X
Headset State Support	N/A		X	X	
Speed Dial Capabilities (Virtual Office)	N/A		X	X	
Virtual Office Login Enhancement	N/A		X	X	
Computer Telephony Integration Adapter (CTIA)	N/A	X	X	X	X
PC Utility Adapter	N/A	X	X	X	X
Full Duplex Handsfree Accessory	N/A			X	
M3905 Phase 3 set	N/A				X
Secondary DN Dialing	N/A		X	X	X
One-button Feature Access Keys	Pkg. 386		X	X	X
Set-to-Set Messaging Enhancements	Pkg. 386		X	X	X
System Initiated Language Selection	Pkg. 386	X	X	X	X
Virtual Office Automatic Logout	Pkg. 387		X	X	
Redial & Callers List Erase (Virtual Office)	Pkg. 387		X	X	

Phase 1, 2, and 3 Accessory Compatibility Table

Accessory	X11 RLS	Phase Introduced	M3902	M3903	M3904	M3905
Analog Terminal Adapter (ATA)	R24.24	1	X	X	X	X
External Alarmer & Recording Interface	R24.24	1	X	X	X	X
Personal Directory PC Utility	R24.24	1			X	X ¹
Key-based Expansion Module (KBA)	R24.24	1			X	X
Display-based Expansion Module (DBA)	R25.10	2			X	X ¹
Computer Telephony Interface Adapter	R25.40	3	X	X	X	X ¹
Full Duplex Handsfree Cartridge	R25.40	3			X	

Table Notes:

1. **M3905** Phase 3 firmware and X11 Rls. 25.40 or later software are required to support the Personal Directory PC Utility, DBA, and CTIA accessories.

The following table summarizes which M3900 Feature sets will be active when Phase 1, Phase 2, and Phase 3 M3900 sets are installed with the various releases of X11 Software that support M3900 sets:

	R24.24/24.25	R25.08	R25.10/25.15/ 25.30	R25.40
M3900 P1	Phase 1 capability	Phase 1 capability	Phase 1 capability	Phase 1 capability
M3900 P2	None: Phase 2 sets are not supported on R24	Phase 1 capability: Note: Phase 2 Context Sensitive soft keys & DBA will function	Phase 2 capability	Phase 2 capability
M3900 P3	None: Phase 3 Sets are not supported on R24	Phase 1 capability: Note: These features will also work: Context sensitive keys, DBA, 31 digit dialing, Call forward enhancement, Special Character Support, Pause in Dialing, Japanese Language Updates, Full-Duplex Handsfree (with FDHF cartridge)	Phase 2 capability: Note: These features will also work: 31 digit dialing, Call forward enhancement, Special Character Support, Pause in Dialing, Japanese Language Updates, One-Button Access to Personal Directory, Full-Duplex Handsfree (with FDHF cartridge)	Phase 3 capability

Note for X11 25.xx installations previous to 25.40

If a flash memory download is done to Phase 2 or 3 telephones while on an X11 release previous to 25.40, they will revert back to the firmware level introduced by the X11 Release they are running on and any additional M3900 feature support as defined in the table above will be lost and cannot be restored. Sets will function with all features and capabilities as originally purchased and supported with their respective X11 Release.

A customer purchases M3900 Phase 3 functionality by purchasing X11 Release 25.40 or higher software, not by purchasing M3900 Phase 3 telephones. Customers who desire M3900 Phase 3 functionality must purchase X11 Release 25.40 or higher software.

Nortel Networks cannot compensate channel partners or end users who lose Phase 2 or 3 features as a result of a Flash Download performed to Phase 2 or 3 M3900 sets. However, if this does happen, customers can easily restore these features by purchasing X11 Release 25.40 or higher software and downloading the Phase 3 firmware to the sets.

The following tables show what phase M3900 sets were introduced on the various X11 software releases since the introduction of M3900 sets.

North America M3900 Introduction

	M3901	M3902	M3903	M3904	M3905
R24.24/24.25	P1	P1	P1	P1	P1
R24C (25.08)	P1	P1	P1	P1	P1
R25.10/25.15/ 25.30	P1	P1	P2	P2	P1
R25.40	P1	P3	P3	P3	P3

CALA and Asia Pacific M3900 Introduction

	M3901	M3902	M3903	M3904	M3905
R24.24/24.25	P1	P1	P1	P1	P1
R25.10/25.15/ 25.30	P1	P1	P2	P2	P1
R25.40	P1	P3	P3	P3	P3

EMEA M3900 Introduction

	M3901	M3902	M3903	M3904	M3905
R24.24/24.25	P1	NA	NA	NA	P1
R25.10/25.15	P1	P1	P2	P2	P1
R25.40	P1	P3	P3	P3	R3

Ordering information

Following are the order codes for all new hardware and software components for the product.

NT Code	A0 Code	Description
Release 3 English Labeled Sets		
NTMN32GA66	A0858368	Meridian M3902 Basic, Rel. 3, Ash (Platinum)
NTMN32GA70	A0858369	Meridian M3902 Basic, Rel. 3, Charcoal
NTMN33GA66	A0858372	Meridian M3903 Enhanced, Rel. 3, Ash (Platinum)
NTMN33GA70	A0858373	Meridian M3903 Enhanced, Rel. 3, Charcoal
NTMN34GA66	A0858377	Meridian M3904, Professional, Rel. 3, Ash (Platinum)
NTMN34GA70	A0858378	Meridian M3904, Professional, Rel. 3, Charcoal
NTMN35GA66	A0858379	Meridian M3905 Call Center, Rel. 3, Ash (Platinum)
NTMN35GA70	A0858381	Meridian M3905 Call Center, Rel. 3, Charcoal
Canada/Asia/CALA Release 3 Icon Sets		
NTMN32TA66	A0858576	Meridian M3902 Basic, Rel. 3, Ash (Platinum) (Icon)
NTMN32TA70	A0858577	Meridian M3902 Basic, Rel. 3, Charcoal (Icon)
NTMN33TA66	A0858578	Meridian M3903 Enhanced, Rel. 3, Ash (Platinum) (Icon)
NTMN33TA70	A0858579	Meridian M3903 Enhanced, Rel. 3, Charcoal (Icon)
NTMN34TA66	A0858581	Meridian M3904 Professional, Rel. 3, Ash (Platinum) (Icon)
NTMN34TA70	A0858582	Meridian M3904 Professional, Rel. 3, Charcoal (Icon)
NTMN35TA66	A0858583	Meridian M3905 Call Center, Rel. 3, Ash (Platinum) (Icon)
NTMN35TA70	A0858584	Meridian M3905 Call Center, Rel. 3, Charcoal (Icon)
New or Updated Accessories		
NTMN82BA	A0790177	PC Utility Software (used to add PC Utility functionality to CTIA)
NTMN82AB66	A0869425	Personal Directory PC Utility Accessory, Ash (Platinum) (M3900 Series)
NTMN82AB70	A0869426	Personal Directory PC Utility Accessory, Charcoal (M3900 Series)
NTMN70CA	A0800594	TAPI 2.1 Software (used in to add TAPI to PC Utility Cartridge)
NTMN70AA66	A0764502	CTI Adapter (CTIA), Ash (Platinum)
NTMN70AA70	A0764503	CTI Adapter (CTIA), Charcoal
NTMN72AA66	A0776561	Full-Duplex Handsfree Accessory, Ash (Platinum)
NTMN72AA70	A0776562	Full-Duplex Handsfree Accessory, Charcoal
NTMN0002	A0870114	Hold Key Keycap Kit, text-keycaps (red) QTY 50
NTMN0003	A0870115	Hold Key Keycap Kit, text-keycaps (gray) QTY 50
NTMN0004	A0870116	Hold Key Keycap Kit, Icon keycaps (red) QTY 50
NTMN0005	A0870121	Hold Key Keycap Kit, Icon keycaps (gray) QTY 50
NTMN38AB66	A0872491	Key-based Expansion Module Kit 1, Ash (Platinum)
NTMN38AB70	A0872492	Key-based Expansion Module Kit 1, Charcoal
NTMN14BA66	A0873803	M3900 Footstand, Ash (Platinum) (M3903, M3904, M3905)
NTMN14BA70	A0873804	M3900 Footstand, Charcoal (M3903, M3904, M3905)

English Release 3 User Guides, Assemblies		
NT2F79EB	A0858904	Rel. 3 Eng. M3901, M3902, M3903, M3904 User Guide (Pkg. of 5 P0942070)
NT2F80EB	A0858929	Rel. 3 Eng. M3905 User Guide (Pkg. of 5 P0942071)
NT2F81EA	A0859354	Rel. 3 Eng. M3902-4 Series Quick Reference Guide (Pkg. of 5 P0942351)
NT2F82EA	A0859356	Rel. 3 Eng. M3905 Quick Reference Guide (Pkg. of 5 P0942352)
French Release 3 User Guides Assemblies		
NT2F79FB	A0858931	Rel. 3 French M3901, M3902, M3903, M3904 User Guide (Pkg. of 5 P0942077)
NT2F80FB	A0858934	Rel. 3 French M3905 User Guide (Pkg. of 5 P0942078)
NT2F81FA	A0859355	Rel. 3 French M3902, 3, 4 Quick Reference Guide (Pkg. of 5 P0942354)
NT2F82FA	A0859357	Rel. 3 French M3905 Quick Reference Guide (Pkg. of 5 P0942355)
North American English Collaterals:		
P0942146		M3900 Series Meridian Digital Telephones Brochure
P0942147		M3901, M3902, M3903 Meridian Digital Telephones Product Brief
P0942148		M3904 Professional Meridian Digital Telephone Product Brief
P0942149		M3905 Call Center Meridian Digital Telephone Product Brief
P0942150		M3900 Series Accessories Product Brief

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P0914540

Remote Office 9150 and MIG RLC DSP Application Module

Installer's Notes

Product release 1.0

Standard 1.0

March 2000

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How the world shares ideas.

Adding DSP modules to your Meridian Internet Gateway Reach Line Card or Remote Office 9150 unit

Handling DSP application modules

Before beginning the installation process, review “General safety” in Chapter 3 of either the *Meridian Internet Gateway Reach Line Card Installation and Administration Guide* (NTP 555-8421-210) or the *Remote Office 9150 Installation and Administration Guide* (NTP 555-8421-215). Follow these safety precautions and warnings to protect your investment in your telecommunications network.



CAUTION

Risk of damage from electrostatic discharge

Before handling DSP modules or MIG RLCs, be sure you are properly grounded. Use an approved wrist strap or heel strap to protect line cards and other components in your telecommunications and data networks from electrostatic discharge (ESD).

After reading through the safety guidelines, preview the installation procedure.

Installing DSPs

Use the following procedure when adding DSP modules to your MIG RLC or Remote Office 9150 unit:



CAUTION

Risk of equipment damage

Before opening a 9150 unit to install DSP modules, check the power switch to ensure that the unit is powered off.

- 1 Be certain you are properly grounded before handling DSP modules or the MIG RLC.
- 2 Clear a flat work area with sufficient space to hold your MIG RLC or Remote Office 9150 unit and DSP modules.
- 3 With the DSP modules still in their anti-static bags, place them in the work area.
- 4 Remove the MIG RLC from the PBX or remove the cover from the Remote Office 9150 unit.
- 5 Place the MIG RLC or Remote Office 9150 unit in the work area.
- 6 Remove a DSP module from its antistatic bag, holding it by the edges, with the insertion tabs facing down.
- 7 Insert the tabs into a pair of expansion slots on the MIG RLC or Remote Office 9150 unit.

Note: The tabs are keyed, that is, they can be plugged in only if orientated properly.

- If installing DSP modules on a MIG RLC, see "MIG RLC Motherboard" in the *Meridian Internet Gateway Reach Line Card Installation and Administration Guide* (NTP 555-8421-210) for the location of expansion slots.
- If installing DSP modules on a Remote Office 9150 unit, see "Where the modules can be installed," in the *Remote Office 9150 Installation and Administration Guide* (NTP 555-8421-215) for the location of expansion slots.

- 8 Power-up your 9150 unit, or reinsert your line card into its slot.

IF this is**THEN**

the initial installation of your unit or
line card

proceed with the installation steps in
the *Installation and Administration*
Guide for your unit.

an upgrade to existing unit or line
card

you are finished.

P0914540

Remote Office 9150 and MIG RLC DSP Application Module

Installer's Notes

Product release 1.0

Standard 1.0

March 2000

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CAUTION

Risk of damage from electrostatic discharge

Before handling DSP modules or MIG RLCs, be sure you are properly grounded. Use an approved wrist strap or heel strap to protect line cards and other components in your telecommunications and data networks from electrostatic discharge (ESD).

After reading through the safety guidelines, preview the installation procedure.

Installing DSPs

Use the following procedure when adding DSP modules to your MIG RLC or Remote Office 9150 unit:



CAUTION

Risk of equipment damage

Before opening a 9150 unit to install DSP modules, check the power switch to ensure that the unit is powered off.

- 1 Be certain you are properly grounded before handling DSP modules or the MIG RLC.
- 2 Clear a flat work area with sufficient space to hold your MIG RLC or Remote Office 9150 unit and DSP modules.
- 3 With the DSP modules still in their anti-static bags, place them in the work area.
- 4 Remove the MIG RLC from the PBX or remove the cover from the Remote Office 9150 unit.
- 5 Place the MIG RLC or Remote Office 9150 unit in the work area.
- 6 Remove a DSP module from its antistatic bag, holding it by the edges, with the insertion tabs facing down.
- 7 Insert the tabs into a pair of expansion slots on the MIG RLC or Remote Office 9150 unit.

Note: The tabs are keyed, that is, they can be plugged in only if orientated properly.

- If installing DSP modules on a MIG RLC, see "MIG RLC Motherboard" in the *Meridian Internet Gateway Reach Line Card Installation and Administration Guide* (NTP 555-8421-210) for the location of expansion slots.
- If installing DSP modules on a Remote Office 9150 unit, see "Where the modules can be installed," in the *Remote Office 9150 Installation and Administration Guide* (NTP 555-8421-215) for the location of expansion slots.

- 8 Power-up your 9150 unit, or reinsert your line card into its slot.

IF this is**THEN**

the initial installation of your unit or
line card

proceed with the installation steps in
the *Installation and Administration*
Guide for your unit.

an upgrade to existing unit or line
card

you are finished.

Nortel CALA Inc.
1500 Concord Terrace
Sunrise, Florida 33323
Teléfono: (305) 851-8000
Fax: (954) 851-8818
Attn: Comunicaciones

NORTEL
NORTHERN TELECOM

“Boletines de Marketing” Cambio de Dirección y Comentarios

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MANTENGASE CONECTADO

Para asegurarse que reciba los Boletines de Nortel durante los siguientes meses, favor verifique su dirección y haga cualquier cambio necesario.

Si su información está correcta, puede utilizar este formulario para añadir el nombre de algún colega que quiera recibir futuros boletines.

**Por Favor, Tome
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Envíe este formulario al fax (954)851-8818, atención, Claudia Joannou, en el Dept. de Comunicaciones.

Product Bulletin

Number: CALA-083-PB

Date: November 1997

Introducing X11 Release 22.46 (22C) Software Upissue

Nortel CALA Inc., announces the introduction of Release 22.46 (also known as 22C). This upissue replaces the existing Release 22.16 software introduced this past June. This bulletin summarizes the enhancements and bug fixes that have been incorporated into this upissue, provides you with some key advisements to consider and reviews some modifications to feature packages.

Note: This is NOT a complete guide to the content of X11 Release 22. To obtain complete information on X11 Release 22, make sure you also reference the following CALA bulletin: CALA-001-GRB, October 1996.

Enhancements

There are three enhancements being introduced with 22.46:

- a) Network Authorization Code (NAUT)
- b) Option 81C Clock Hunting
- c) Fault Recover Improvement

Network Authorization Code (NAUT)

The Network Authorization code feature enables selected users to temporarily override the access restrictions assigned to a station or trunk. A user can enter an authorization code to access more of the system facilities than would normally be allowed to the particular station or trunk because of the assigned NCOS (Network Class of service), COS (Class of service) and TCOS (Traveling Class of service). The NAUT feature provides up to 20,000 authorization codes of 1 to 14 digits (with Release 13 and later).

Enhanced functionality:

When an Authorization code is used to place an outgoing call and a conference call is made to a second outgoing call, then an Authorization code is required. This generates CDR for the second call involved.

A new prompt 'NAUT' in LD 15 is provided in the FTR_DATA of the Customer Data Block. If the input for 'NAUT' is NO, the existing functionality is maintained. If the input for 'NAUT' is YES, then the user is prompted for an auth code entry. LD 21 is also modified to print the new prompt 'NAUT'.

The user is prompted for an auth code entry only if the Facility Restriction Level associated with the NCOS of the incoming (or two-way) tie trunk is less than the minimum FRL of the route list that NARS, BARS, or CDP would use for the call. In addition if the user is at a remote switch, the user

may be prompted for the auth code entry if the route is defined in the Route Data Block to prompt for an auth code entry on incoming NARS, BARS or CDP calls. If using DISA, the user is prompted for the code entry if the FRL of the NCOS assigned to the DISA DN is less than the Minimum FRL of the route list that NARS, BARS or CDP would use for the call.

With 'NAUT' set to YES in the Customer Data Block, Auth code is reprompted for Call Transfer and Conference.

With 'NAUT' set to YES in the Customer Data Block, Auth code is reprompted when accessed through the DISA feature.

With 'NAUT' set to YES and OPT set to Call Forward Forwarding Originating (CFO) in the Customer Data Block, a caller may be prompted for an auth code entry after a call to a station that forwards the call to NARS, BARS or CDP number.

With 'NAUT' set to YES and OPT set to Call Forward Forwarding (CFF) in the Customer Data Block, the user will not be prompted for an authcode on making a call to a station that forwards the call to NARS, BARS or CDP number.

With 'NAUT' set to YES in the Customer Data Block, CDR is generated for both trunks involved.

With 'NAUT' set to YES/NO in the Customer Data Block, an attendant is reprompted for an authcode entry if the FRL required to access a route list for a NARS, BARS or CDP call is greater than the FRL of the attendant's NCOS.

The Network Authorization code will be prompted only if it is configured (in LD 88).

Reference: BV37132

Option 81C Clock Hunt Enhancement

The process for the searching for the System Clocks and identifying their addresses during system sysload and initialization is provided by the Clock Hunt feature. During initialization and sysload, both sides of every group in the database are searched for the System Clocks' location. All network groups in the database are searched for clocks, and any excess or deficiency is reported to the crafts person as an error message. The Clock Hunt feature is necessary since option 81C System Clocks are no longer required to reside in fixed group locations.

Enhanced Functionality:

Since the option 81C System Clocks are not in a fixed group location, the Clock Hunt Enhancement has been developed to allow the craft person to check the Clock location without going through a initialization or sysload. The Option 81C Clock Hunt enhancement modified the Status Clock Controller (SSCK) command in overlay 60. Once invoked, the SSCK command will find all the clock addresses in the system. Upon locating all the clocks, if the system clock addresses found are different from the addresses found during system initialization, an error code DTI205 is generated to inform the craft person of the clock mismatch.

A prompt, CHANGE CC FROM XX TO G S? Y(N), has been added. This prompt follows the DTI205 error message to allow the craft person to accept or reject the clock addresses found.

If user enters 'Y' to the prompt, then the following will happen:

- a. The global clock address is updated to the new address.
- b. The clock controller card at new global address is enabled and the LED is turned off.
- c. The status and new location of the updated global clock address are

printed.
If the user enter 'N' or 'CR' (default), then the global clock address retains the same address. The current clock address status and location are not printed (since they were already printed).

The Input/Output changes to overlay 60 are:
SSCK x

Get the status of system clock
address

The system will respond with one of the following:

1. ENBL
CLOCK ACTIVE/STANDBY
GROUP G
SIDE 0/1
SYSTEM CLOCK.....

1. If only one clock is found on side 0/1, and if it is enabled, then clock status and address are printed

...
NO ERROR

2. If the clock is on side 0/1 is disabled.

2. DSBL
GROUP G
SIDE 0/1

3. If no clock found at the time of system initialization.

3. UNEQ

If the software finds an error during CLOCK HUNT routine, one of the following error messages are printed. This only happens if the clock status is DSBL or UNEQ:

DTI205 G S

Clock found in group G, side S is different from its global address.

CHANGE CC FROM XX TO G S?
Y/N (N)

The craft person can select either 'Y' to change the clock address or 'N' to retain the same address. Note: XX means current group & side or UNEQ.

DTI206 S G1 G2 ...

More than one clock has been found in side S. The Group of the extra clock(s) is provided.

DTI207 S

No clock has been found in side S. This indicates that either there is no clock in side S or the clock installed in side S has its shelf-side switch set wrong.

The error message DTI205 is newly introduced with the option 81C Clock Hunt Enhancement.
Reference: BV58119

Fault Recovery Improvement

Fault tolerance of computer based systems has become more and more important in all industries, but particularly with the emergence of new applications where system availability is the heart of the business. Redundancy in many applications is of paramount importance, and coupled with superior recovery mechanisms aimed at hardware or software fault recognition and recovery, provide the value in such applications.

As Meridian 1, with the redundant 680xx processor family employed (61C, 81, 81C), finds its way into new applications, such as those introduced on X11 Release 22 which place heavier and heavier demands on its performance, fault recovery anomalies discovered in field applications and lab analysis led Nortel to a comprehensive review of existing fault recovery mechanisms in a search for improvement opportunities. Several areas were identified which could be modified to enhance the way redundant systems recovered in the event of a fault. These improvements targeted the Meridian 1's ability to detect and recover from software and/or hardware errors seamlessly, with no impact in system operation or performance.

X11 Release 22.46 contains a number of fault recovery improvements detailed below. These improvements are primarily applicable to redundant processor systems and are intended to provide the system with an elegant method of recovery.

A major concern with any system surrounds fault recovery from hardware faults, and the system's ability to gracefully recover with minimum impact to the users of that system. The fault recovery activity described below was targeted at supporting the Meridian 1 as it is used in evolving applications. The capabilities described below will assist in ensuring the system remains stable through the hardware trouble shooting process. These improvements are meant to assist in machine recovery in the event of hardware faults and are not tied to specific root cause failures.

Increased Robust Facility:

The fault recovery improvements address several areas to enhance the system recovery in the event of a hardware fault. The increased robustment of the fault recovery facilities include:

- Ability to perform Network Bus Error (BERR) analysis while the task is "locked". This ability may prevent system initializations. Close attention should be paid to all Bus Errors until the root cause of the Bus Errors has been determined. Note: A 'task' is one of many prioritized activities running on a Meridian 'C' series processor.
- In the event of a system Warm Start, both Core processors will be checked for their relative health. A graceful CPU switchover will be performed if required to ensure the system recovers on the best Core Processor Unit. Analysis of the report log messages should be done in the event of any non-self initiated Warm Start event to verify hardware integrity.
- Software recovery has been improved to attempt recovery of the CNI port in the event of marginal hardware conditions. Changes have been made to the recovery routine when an intermittent fault is seen from the Network in the form of a Bus Error. The marginal hardware conditions may have caused the CNI port to disable itself prior to X11 release 22.40 resulting in a possible system initialization. Attention must be paid to BERRs to determine the cause of the CNI port disable.
- The fault recovery facility will turn off the interrupts to the processor for the System Resource ASIC (SRA) during Warm or Cold Start. This change will prevent the event of

the hardware watchdog timer expiring, which will cause the system to initialize and swap CPU's or Cold Start (reload) if redundancy is not available. By turning off the interrupts, the processor is not confused upon recovery by unserviceable interrupts which are presented during restart sequences. The root cause of the watchdog expiring may be attributed to either a hardware or a software fault.

- The exception handling during ISR (Interrupt Service Routine) has been improved. With this change, the system will recover from the bus error and will not perform a warm start if an inaccessible hardware address is encountered during the ISR.
- The SL-1 Restant Routine has been modified to perform both a software initialization and an OS warm start. In this manner, we can ensure that system resources are always recovered. There is no net affect to the end-user as a result of this change.

The above fault recovery improvements are defensive in nature. The improvements are intended to provide the system a elegant method to recover from a hardware fault. Any time the system exercises one of these recovery methods, the root cause must be investigated and resolved.

Bug Fixes

Following is a list of known bugs that have been resolved since release 22.33:

NETWORK AUTHORIZATION CODE BV37132

CDR records are incorrect when using network authorization code from an analog (500) set and the authorization code is not re-prompted after the hookswitch flash to make a second call. See the **System Enhancements** Section.

TRUNKS BV44481

At one site, after upgrading from Release 19.22 to Release 21.05, there were BUG0415 (Invalid software trunk state detected. Far-end onhook simulated) and BUG0420 (ORIGTN or TERTN to be idled in Call Register does not match the TN pointed to by ITEMPTR) messages being output, but these were not service affecting.

ACD BV44606

At one site, ACD agents are getting busy tone while trying to log in with their assigned Agent ID indicating that the Agent ID is already in use whereas the fact is the Agent ID is not in use.

CALL PROCESSING BV51019

Intermittently, the switch stops normal call processing and call timers speed up

RECORDED ANNOUNCEMENT BV51472

When a single route is configured with multiple members as PUL or LVL RAN machine types, calls are not queued correctly e.g. each call should be indexed up to the next free TN/Route combination, and hear the appropriate RAN message, or given the correct call processing treatment, e.g. ringback when that RAN machine is busy.

TRAFFIC * BV51634

The TFC002 report does not peg all trunks busy (ATB) on incoming ISA service routes.

ELECTRICAL LOW-COST FIBRE BV51792

Loadware development is required for supporting the ELF packet (NT1P63CA). The loadware is changed to support both the EOI and ELF packets.

ISDN BV52217

At one site, an ISDN ISA INWATS call using IDC to a set that is in lockout state forwards to the NT1 DN when the attendant console is in NIGHT mode instead of the external party receiving busy tone.

ISDN BV52929

When both Q-Sig Supplementary Services Call Completion on Busy (CCBS) and Q-Sig Name Display Services (QNDS), the name display for both sides are not displayed correctly.

VIRTUAL NETWORK SERVICES BV52946

The CDR "N" (normal) record is missing the charges (PPM) when a VNS call is transferred by the attendant.

VIRTUAL NETWORK SERVICES BV52947

The CDR "E" (end) record is missing the charges (PPM) when a VNS call is blind transferred by the attendant and the Release 22 Trunk to Trunk Connection feature is configured.

PRIVACY BV52972

Some sets with privacy (MCRA class of service) are locking up intermittently.

DTI BV53328

At some sites, BUG0105 (Double timeslot problem prevented TN is printed.) messages are being output when DTI trunks are used.

MIDNIGHT ROUTINES BV54031

The midnight routines took a long time to complete at one site.

ATTENDANT CONSOLE BV54413

The Departmental Listed Directory Number package is equipped, and is being used with auto terminating COT trunks to the LDNs. Each LDN is associated with an attendant console. The ICI key will flash for an incoming call and the attendant cannot access the ICI to answer the incoming call. When BUG250 message is printed out, usually 3 - 4 minutes later, the console is freed up to accept other calls.

DATA DUMP BV54637

When doing a data dump an "INVALID BLOCK LENGTH" appears after "ARIES". This problem only occurs when you build a new system with M2616 sets.

MICROCELLULAR BV54654

When an existing DN is used as an entry for MUD_DN prompt in LD15, system will output SCH1328 (invalid input). SCH1328 has been replaced with SCH242 (directory number conflicts with existing DN) to provide more information to user.

CALL DETAIL RECORDING BV54756

Some CDR records are truncated when they are larger than 128 characters and the baud rate is slow (300).

ISDN BV54770

ISDN PRI channels are going into MBSY state when the active call on the channel is released.

INITIALIZATION BV55506

At one site there is no initialization message output after the sysload is done.

ISDN BV55828

An incoming NI2 call to a set that is CFW all calls to Meridian Mail has an extra progress indicator in the connect message. Both progress indicators of 8 and 2 are present in the connect message. Only progress indicator 2 should be in the connect message.

SCPU COMMAND BV55850/BV59427

When the SCPU (switch cores) command is issued in Overlay 135, the system initializes instead of swapping the two CPU's. This happens when the 68030/68040 processor is in an uninitialized state.

VNS/NACD/RAN/MUSIC BV55928

Calls are NACD with VNS. The source queue has the target queue with a 0 second timer. An ACD call comes into the source queue. The call should get RAN/Music treatment until the alert message is received back on the VNS D-channel. Instead no RAN or Music treatment is given, the call takes 8 - 12 seconds to setup, silence is heard until the alert message is sent from the target switch. Note that this problem only occurs when the originating trunk has DTN class of service.

CONSOLE PRESENTATION GROUP BV56155

An incoming ISA DID call to a vacant number does not get routed to the console group as defined in LD. 93.

ESN/NARS BV56289

When ESN/NARS is configured incorrectly, the system can sysload or initialize (INI0005 - CPU fault).

MICROCELLULAR BV56478

When configuring a portable set and key 0 is not configured, if a SCR key is not entered when the portable is first built then the server supplies a incorrect DN. To resolve this problem, SCH0196 (A key 0 DN key

is required on a Mobility set) will be presented to user and user will be reprompted for the SCR key.

NAS BV56540

With NAS activated, an ST system on Release 14 cannot tandem calls to other switches.

MERIDIAN ADMINISTRATION TOOLS BV56613

While attempting to switch from a Core 0 (good IODU) to Core 1 (bad IODU) using MAT 5, the system initialized. When no carrier is present on the ethernet interface, the initialization occurs.

ISDN BV56623

In some cases, there is wrong information on the display of the originator of a call which is forwarded, in the standalone case as well as networkwide on MCDN with RCAP ND3.

MICROCELLULAR BV56812

On systems using distant steering codes and local steering codes between two nodes, visiting portables cannot make or receive calls if the variable length DN is different at the two nodes (e.g. site A uses 4 digits and site B uses 5 digits).

LAPW BV56990

When upgrading to Release 22 with System Access Enhancements, the passwords are encrypted with the login names. If the user uses a TTY to login, the passwords do not match. This problem does not occur with a STA terminal.

CLOCK CONTROLLER BV56992

The Clock Controller cannot synchronize to a default frequency during a cold power start, since there is nothing for the clock controller hardware to track on.

MERIDIAN ADMINISTRATION TOOLS BV57032

For systems with MAT 5.30.5 and later, the short trap 6.5 is not being sent to open managers.

MULTI-PARTY OPERATIONS BV57034

When the call join feature of MPO is used, the set which originally called the set doing call join has its DN key inoperable and incoming calls receive busy tone. To clear the problem the DN key is pressed, but BUG0115 (Terminal does not match DN or TN in call register) message is output. When a conference call is joined to an existing call either a BUG4231 (Procedure SETLAMPSTATE, passed, SSDKEY is grater than 2009, 2112, or 2018 last key.) message is produced for a M2616 set or BUG4231 message and BUG5182 (There is a PRA call reference mismatch affecting the Virtual Network Services Index pointer, run an audit.) message is produced for a M2317 set. This problem is not service affecting.

MULTI-PARTY OPERATIONS BV57238

When the Multi-Party Operations Package is enabled, sometimes there are system initializations or bus errors which may occur.

VIRTUAL NETWORK SERVICES BV57353

If remote call forward on node X is forwarded to an invalid DN over VNS to node Y and Node Y has VNR (vacant number routing) programmed, BUG6013 (RCFW message response timeout. For Attendant RCFW operation, the remote node requires Attendant Network Remote Call Forward package 253.) is printed, causing the facility message to loop around on the VNS D-channel and the remote node to be blocked.

MERIDIAN MAIL BV57542

When a call is transferred to Meridian Mail by using the express messaging and dialing the express messaging access code followed by an autodial key which has the DN of another set and the transfer is completed, double timeslot noise occurs.

BUSY LAMP FIELD ARRAY BV57555

The Busy Lamp Field Array on the M2250 Attendant Console does not have the DN marked busy on it. Instead the empty array is displayed on the BLF screen.

ACD BV57653

A call is presented to an idle ACD agent with call force enabled, FCFT > 0 and ISAP = YES. If the caller disconnects when the agent is still in the FCFT queue, no call abandoned (CAB) message is sent to MAX. This call is also not pegged in the ACD-C reports.

ISDN BV57717

When calls are tandemed from a non Meridian 1 switch over the ISDN T1 Q-Sig GF interface so that the LOC code is used on one Meridian 1 to reach another Meridian 1, the incoming call is rejected from the first Meridian 1.

ISDN BV57718

The calling user sees his/her name displayed for a gateway call originated from a Meridian 1 and going to a non Meridian 1 switch through another Meridian 1.

MAINTENANCE WINDOWS BV57830

When using call trace with release 22.07 from maintenance windows with MAT 5, the system will sysload. This problem does not occur on releases 22.06 or earlier since the stack size on the switch was adequate.

ISA BV57887

At one site, an ISA call to a set with Call Forward All Calls, fails to complete due to the Meridian 1 sending the wrong (unsupported) progress indicator.

CARRIER REMOTE BV58026

With two or more carrier remotes installed, if an initialization occurs (manually or automatically) the switch will take a long time to initialize and cause the idle CPU to disable.

ISDN BV58054

The Meridian 1 Channel ID format is different from a non Meridian 1 switch when a backup D channel is used and the channel ID is implicitly defined (TR1268 NI2 Channel ID format 5ESS). Incoming calls do not complete when the backup channel is active and the incoming call is received on a channel that is on the backup span.

SERVICE CHANGE BV58055

When using Overlay 16 to build NI2 trunks as ISA, service change allows the input of NI2 trunks. ISA is not currently supported on NI2 trunks.

CLOCK CONTROLLER BV58119

The clock controller cannot be enabled after power down/power up of the system. System needs to be initialized for the clock controller to be enabled. **See the System Enhancements Section.**

MERIDIAN LINK BV58322

There are two transfer call ids in the USM message when a call transfer is completed.

ISDN BV58368

Since upgrading to Release 21.35, a setup message is sent out immediately after the Autodial key is depressed when the called number is equal to the SPN (special number to be screened) in the setup message. This does not allow the user to manually dial digits to complete the call. It appears that the End of Dial timer is not used when a SPN is included in the Autodial key. This problem does not occur when dialing manually.

MICROCELLULAR BV58394

Two portable sets are calling each other simultaneously and double timeslot noise was received instead of

busy tone.

MERIDIAN ADMINISTRATION TOOLS BV58477

When using MAT 5 on Ethernet, the throughput is much slower compared to when doing service change on the TTYs without MAT 5.

MERIDIAN MAIL BV58483

If a hotline key is used to call Meridian Mail, the prime DN is sent in the PCI message instead of the DN assigned to the hotline DN.

MICROCELLULAR BV58512

During an established call on a portable, the portable presses send to transfer the call to another DN, and if the other DN is busy, the caller hears busy tone and the call must press send to transfer 6 to 8 times to return to the first caller.

MERIDIAN LINK BV58548

The call offered message is coming before the progress ringing message. This causes problems with the screen pops.

MERIDIAN LINK BV58564

If the originating DN is a 2-way hotline key, the calling party DN sent to Meridian Link is 0 bytes in length.

MICROCELLULAR BV58652

Portable sets were not set up to handle an inband tone for call waiting tone on key other than call waiting key, therefore portable users are only aware of the first call that is waiting for them.

MERIDIAN LINK BV58904

When the secondary DN makes a call transfer or conference, the Status Change Message THIS PARTY DN IE FIELD contains the primary DN value instead of the secondary DN value.

CONVERSION BV58990

When converting from release 21.43 to release 22.08, conversion fails with a SYS3047 (Automatic conversion is not available for a given data base. Data base on tape is not updated to minimum release.) message.

ADMINISTRATION BV59027

In LD 14, it is not possible to set SIGL = EAM for a DID trunk, if package 190 (UK package) is restricted.

**HANDSFREE/VOLUME CONTROL BV59117/BV59239
BV59179/BV57499**

When using the M2616 set, the handsfree redial does not work, the volume control is inoperable, and there is some delay in the speechpath after answering on an ACD set or SCR call.

MICROCELLULAR BV59212

When a wireline answers a call from another wireline, a twinned portable also answers the call and then disconnects, a BUG6505 (Cref returned by MOB_GET_CREF is invalid) is given. There is no impact to system or call.

MICROCELLULAR LOADWARE BV59243

A defective radio continues to direct calls to it, which effects the system performance.

ISDNBRI BV59342

The TEIs are not being cleared immediately when the terminals were unplugged. The number of TEIs should be decremented within a few seconds after the terminal is unplugged.

ADMINISTRATION BV59406

STAT in LD 54 shows MFC units idle, but STAT in LD 32 shows MFC units MBSY. This problem occurs when the midnight routines are run, the MFC units are put into MBSY and AUD0587 (MF S/R pointing to CR which does not contain its TN. Active Call Register of MF S/R set to nil. TN, CDR information, and progress mark are output.) message is printed out. This problem is not service affecting.

TRACE BV59407

A M2317 set makes a call using an analog ISL trunk to another M2317 set. LD 80 is used to trace the call and BUG5861 (TN passed should be a trunk. Procedure is called with wrong UNITTYPE) is printed. This problem is not service affecting.

AUTOMATIC WAKE-UP BV59465

The background terminal outputs multiple 'EQUF FAIL' messages and the automatic wake-up calls revert back to the operator. This problem only occurs if RANF is configured in a different group from the sets.

AUTHORIZATION CODE BV59548

SCH4599 (The assigned authcode entered is invalid.) message is printed when defining authorization codes for new 500/2500 DN's when package 229 is equipped (Station Specific Authorization Codes). As a work around, the user must step through the programming to the end, when memory is updated and the user goes back and executes a change when the authorization code entries are accepted.

CONVERSION BV59564

When converting to release 22, when sets are configured with keys that utilize the full allocated memory (256 words) the sets get removed from the database.

RETURN TO SAME ATTENDANT BV59742

On a customer with at least 2 attendants with the RTSA prompt set to RSAX, not all calls made by an attendant return to the attendant after the timeout.

MERIDIAN LINK BV59784

The progress message from a hold request on an analog set (500/2500) has the wrong CALLER ID IE.

ACD BV59937

Agents without ACD-D package are not able to configure the ACNT key. SCH3621 (Either ACD package D is not equipped or the agent is not an ICCM acquired control agent.) message is output.

ESN BV59998

BARS will not work with an FCAS (Free Calling Area Screening) when using DISA with DTI. This problem does not occur with analog trunks.

CCR BV60022

An invalid call register in the CCR priority queue for a given CDN on a system with the IVR package configured has produced system initializations when the CCR script has attempted to access the invalid call register.

ISA BV60048

On an ISA DID route when programmed with RCLS (route class marked as internal) = INT, the call is forwarded no answer to the EFD (Flexible Call Forward No Answer DN for external calls) instead of the FDN (Flexible CFNA DN). This problem does not occur for analog DID routes.

CONFERENCE BV60209

Bus errors occur when the originator of an internal three party call disconnects. This problem only occurs if one of the two remaining parties is an analog (500/2500) set with call forward and speed call configured.

ISDN BV60358

A TR1268 NI2 RESTART REJ is sent to a 5ESS NI-2 in backup DCH environment. A RESTART ACK

message should be sent instead, since the 5ESS is attempting to restart on channel 1 on the backup DCH channel.

NACD/CCR BV60598

Run CCR with a script for CDN 2229 to give ringback, queue to 2200, queue to 2999. Create a night table for 2999 so that it call forwards to customer 3. Have all agents busy except for ACD DN 3200. Establish a call between two sets for the same customer. Conference in a customer 3 NACD agent by dialing the CDN 2229. Answer the call at ACD DN 3200. Disconnect the first set. Disconnect the second set. BUG681 message is printed out.

ACD BV60648

At one site, calls are presented to an ACD agent even though the set is in not ready state. The agent had to first put an ISDN or ACD call on hold and keep the handset onhook. If the call is released while the set is still onhook, the NRD lamp starts flashing. After this the problem occurs.

ALARM MANAGEMENT BV60733

After upgrading to Release 22.08 or installing new systems with package 243 (Alarm Filtering) and 296 (MAT) on, some systems will not print maintenance messages. If the site turns package 243 and 295 off the problem no longer occurs.

CCR/NACD BV60887/BV61473

When a QTN (Queue to NACD) call is abandoned, a NOVF message is sent. This NOVF message is in HSL Protocol 10 format (len = 10) instead of HSL Protocol 11 format (len = 14). Also applies to when a QTN call is answered locally. Requires the NACD (Option 178), Queue to NACD (Option 321) and CCR (Option 215) packages.

CCR/NACD BV60891

When a QTN (Queue to NACD) call is abandoned, there is no ICAB or ICCN HSL messages. Requires the NACD (Option 178), Queue to NACD (Option 321) and CCR (Option 215) packages.

CCR/NACD BV60934

When a QTN (Queue to NACD) call is dequeued from the Routing DN, the ICCN message does not have QTN_flag = 1, instead of 0. Requires the NACD (Option 178), Queue to NACD packages (Option 321) and CCR (Option 215) packages.

CCR/NACD BV60936

When a QTN (Queue to NACD) call is dequeued, a NOVF-off HSL message is received but it has the abd_at_src = 1 instead of 0. Requires the NACD (Option 178), Queue to NACD packages (Option 321) and CCR (Option 215) packages.

ADMINISTRATION BV60943

SCH2017 (This value represents a change for the CDR with Outpulsed Digits. The change does not take effect until after the next initialization.) messages are generated continuously after defaulting (carriage return) past the DRNG prompt while programming a new PRI ISA service route in LD 16.

CCR/NACD BV60945

When a QTN (Queue to NACD) call is answered, the RCAA received has the QTN_flag in the wrong bit position, at bit 2 instead of bit 3. Requires the NACD (Option 178), Queue to NACD packages (Option 321) and CCR (Option 215) packages.

CCR/NACD BV61592

When a QTN (Queue to NACD) call is presented to the remote agent, the ICAB HSL message is missing the DNIS information. This only occurs when a QTN call is presented to the remote agent. The DNIS information is there when all agents are busy. Requires the NACD (Option 178), Queue to NACD packages (Option 321) and CCR (Option 215) packages.

MERIDIAN LINK BV61635

There are no second and third USM ringing messages for call forward no answer, second level call forward being sent to Meridian Link.

BASIC RATE INTERFACE BV61780

Sites that have more than one TEI's per Digital Subscriber Loop and upgrades to 22.15 the BRSC cards may not function. All equipped MISP cards are functional.

PRIVATE LINES BV61881

Private lines are not working correctly on EPE when calls are via the CO to an analog Loop Start private line.

ISDNBRI BV62131

Cannot enable the BRIL application on the MISP in LD 32. A BRI824 message is printed with "The MISP failed to get enabled".

ACD BV62139

A call which has time overflowed to the target ACD-DN is not presented to the MQA (Multiple Queue Assignment) agent. Also a CDN (Control DN) call, queued to an ACD-DN is not presented to the MQA agent.

ISDNBRI BV62159

While configuring the BRIE application in LD 27, SCH0101 (Unable to match input fields with stored mnemonics) message is output.

INITIALIZATION BV62345/BV63350

Many RCV0001 messages are being output causing the midnight routines to initialize. This problem was caused by an interaction with Network Message Center and Call Sender.

DATA CALL BV62347

When making a data call from a M2616 set, the call is blocked, and both CPUs lockup. This only occurs when you hit the "program" and "*" keys to release the data call, the switch will lockup with "VECTOR 4D UNIMPLEMENTED" on the CP display.

ADMINISTRATION/MICROCELLULAR BV62393

In LD 20, you are unable to print a music trunk when the Microcellular packages are restricted (Options 302 and 303).

IPE BV62435

There is loss of service to loops running off of fibre-remote multi-ipe and many ERR020's.

MICROCELLULAR BV62476

After upgrading to Release 22, there are SYS9999 and SYS4416 messages printed out for Microcellular which are reserved for Meridian 1 not Microcellular.

MICROCELLULAR BV62488

Microcellular cannot change the DN on a portable with Multi-site. The Multi-site database was not updated when a portable was service changed.

MICROCELLULAR BV62497

When making a call from a portable and hanging up, the DN continues to ring until another call is made to another DN from the portable.

MICROCELLULAR BV62498

If a busy portable set that is configured with call waiting allowed in LD15 hears the call waiting tone and disconnects then BUG0115 (Terminal does not match DN or TN in call register) is generated.

MICROCELLULAR BV62627

When upgrading a system and configuring EICM and MXC, occasionally can not reuse the same card address. If there is a problem with reusing the same card address, user will receive a message that the "Card address - Invalid value: Unconfigured hardware".

SERVICE CHANGE BV62877

Intermittently the system generates SCH6755 (CLID entry D is not allowed to be assigned to all the DN keys on the set.) when adding a new DN on a key to a M 2616 set. (LD 11)

MICROCELLULAR BV63037

Incorrectly idled call registers result in BUG4001s (Call Register idled when SON CR still linked) during midnight routines.

MICROCELLULAR LOADWARE BV63057

The EIMC is causing a memory leak which in turn is causing Microcellular to have no available memory.

MICROCELLULAR LOADWARE BV63059

The Microcellular Traffic in LD 2 for the Operational Measurements is incorrect.

PHANTOM LOOPS BV63065

When LD 17 was run with "PBXH" set, NPR messages were sent for phantom loops causing the system to have an INI-2F. This is because phantom loops have no physical hardware, but NPR messages were still being sent to the hardware.

ACD BV63066

Customers will hear the Recorded Announcement (RAN) then receive fast busy on sites using a VPS card to give the RAN for the ACD queue and that have the ASUP prompt for the RAN route set to NO.

AUTHORIZATION CODE BV63173

When placing a call using AC1+NSCL+ entry, there is a delay prior to receiving request for authorization code. If the user enters additional digits or a pound sign, the dial tone is returned immediately.

MICROCELLULAR BV63181

The protocol version on the neighbor list for an internal cell has version 2 instead of 4. The portable does not work correctly when entering an internal IS-135 RevA cell.

MERIDIAN ADMINISTRATION TOOLS BV63182

Upon initiating a PPP (point-to-point) session from a MAT PC to an Option 81C, the Option 81C's name is changed to "LOCAL_PPP_IF". Even after the PPP session is terminated, the host name remains the same with "LOCAL_PPP_IF".

MERIDIAN LINK BV63535

After upgrading to 22.08, digital sets can not use Make Call in Meridian Link to initiate a call from an idle digital set to another digital set.

CALL PROCESSING BV63565

Console operator extends a call to a user, the call recalls to attendant who tries to extend the call again and periodically the console will lock-up. This problem is random and site unique.

MICROCELLULAR BV63859

Occasionally, on sites running 22.15 software, portable sets lock up when involved in three way call with two portable sets and a wireline phone.

ISDN BV63918

Site has Backup D-channel to DMS250. The backup D-channel is active and primary D-channel is in standby state. A failure on the span carrying the backup D-channel while there is active calls on the B-

channels results in backup D-channel being placed in MBSY state. The primary D-channel does correctly take over in this scenario. This problem only happened with DMS PRI backup.

MICROCELLULAR BV63957

When deleting a cell that has a hand-off path pointing to it, get a CTS bus-error.

MICROCELLULAR BV64069

The watch dog time out for OA&M was set too low which resulted in a restart of OA&M task when debug messages were turned on.

MICROCELLULAR BV64349

On systems with or without the Microcellular packages equipped, a Microcellular debug message is shown during sysload process. This problem is not service effecting.

MICROCELLULAR BV65279

A single call Multiple appearance set up between two sets will have only one call per DN. When a wireline set goes offhook and then the user makes a call using the portable with the same DN, the call register is different than if the wireline is onhook resulting in BUG1333 (Terminal activating Individual-hold is invalid) or BUG0115 (Terminal does not match DN or TN in call register).

SYSTEM BV65428

On systems using a CP2 board with at least 32MB DRAM, after the first warm-start the system may lose 4M of heap space during next warm-start.

MICROCELLULAR LOADWARE BV65747

Portable lockup: when MXC freezes, due to radio failure, due to lack of VCH RF frequencies, and on disabled portable.

LAMP AUDIT BV65810

After upgrading to release 22.33 or later, system will output many BERR0705 and BERR0115 during lamp audit after nulling out (service changing) the ring again key on a M3000 or 2317 type set.

ARIES BV65880

When a new or existing system is loaded with the Aries package for the first time, the Sidetone Objective Loudness Rating (SOLR) prompt under Meridian Modular Telephone Transmission Parameter (ATRN) in LD17 is not initialized/defaulted properly. Sites will have to manually set SOLR to the default value.

ACD BV66647

On release 22.33 and above, ACD agents using 2216 NT2K18xxxx sets will not receive a buzz before call is connected using the call force feature.

MEMORY BV67380

Option 61C CP2 systems with 48 MB of memory only have 1.25 MB available for SL-1 data. Option 61C CP2 systems with more than 1000 call registers configured will have insufficient memory available. This problem has been resolved by increasing the memory available for SL-1 data.

M3000 SETS BV67483

SYS0202 (Station type does not match card type) messages generated and M3000 sets removed when upgrading from 22.15 (22B) or later software to 22.33 (22C) or later. The workaround is to remove the M3000 sets prior to upgrading to 22C.

MULTIPURPOSE SERIAL DATA LINK BV53982

Removing the Multipurpose Serial Data Link board without disabling it first in the software and then re-insert the board immediately results in a system cold start.

MULTIPURPOSE SERIAL DATA LINK BV61122

During clear-down of a Multipurpose Serial Data Link (MSDL)/universal Integrated Services

Digital Network protocol call, the release message is occasionally missing. This problem results in the channel being locked out on the MSDL. However, the channel appears to be idle if viewed using overlay 60.

SYSTEM BV61443

Option 81 system failed to recover from a cold start with a faulty Core to Network Interface (CNI) card installed. System will remain in endless loop of cold starts until the faulty pack is removed.

ADMINISTRATION BV61759/BV65746

After upgrading an Option 81 system to X11 Release 22.08, the system sysloaded when a synchronization was performed on a CMDU (IODU). The SYNC command in overlay 137 does not copy the last sector of each partition that it synchronizes.

SYSTEM BV62346

A Option 81 system's Central Processing Units did not perform an auto recovery when the cards were locked up.

MICROCELLULAR BV62627

When upgrading a system and configuring embedded intelligent mobility processor pack (EIMC) and microcellular transcoder card (MXC), occasionally can not reuse the same card address. If there is a problem with reusing the same card address, user will receive a message that the "Card address - Invalid value: Unconfigured hardware".

MICROCELLULAR LOADWARE BV65275

After locking and unlocking the embedded intelligent mobility processor pack (EIMC) or microcellular transcoder card (MXC) everything seems all right, but calls can not be originated or terminated to or from a portable set. The radio window shows busy-idle state and CTS proclaims "DIGITAL CONTROL LINK SUCCESS". The traffic control radio is still in the "TCC" mode even after all phone calls have ended.

MICROCELLULAR BV64138

When "INVS 11" is used for operational measurements (in overlay 2), the embedded intelligent mobility processor pack (EIMC) information prints out four times per call. Only the first printout has accurate data.

MULTIPURPOSE ISDN SIGNALING PROCESSOR BV66319

Occasionally the Multipurpose ISDN Signaling Processor (MISP) is not enabled during system initialization.

MICROCELLULAR BV66453

Portable set has message waiting allowed. Portable set is on a call when another call comes in on call waiting after second call stops ringing, portable user presses SND twice. Portable set cannot access either call at this point. If the SND is pressed two more times and the original call is ended, the MSP is suspended resulting in portable sets not being able to make or receive calls.

SYSTEM BV66807

Intermittent bus errors while accessing a disabled Core to Network Interface (CNI) port causes switch-over in redundant systems and initializations in single systems.

SYSTEM BV66810

On Option 81 systems, if vxWorks task control data structures are corrupted, then using OS routines during the recovery processing may cause a warm start loop.

SYSTEM BV66881

The first bus error in the interrupt service routine is not properly recognized on Option 81 CP1.

INTEGRATED SERVICES DIGITAL NETWORK BV66885

Watchdog timeout may occur during initialization on systems equipped with the generic functional protocol (GF) package.

M3000 SETs BV67483

SYS0202 messages generated and M3000 sets removed when upgrading from 22.15 (22B) or later software to 22.33 (22C) or later. The workaround is to remove the M3000 sets prior to upgrading to 22C. SYS0202 - Station type does not match card type.

NETWORK CUSTOMER CONTROLLED ROUTING BV67504

On systems running X11 Release 22.35 with Network Customer Controlled Routing (CCR) configured, a user receiving interruptible Interactive Voice Response (IVR) may get one-way speech path when the remote agent becomes available. Site may also get BERR705 messages when the CCR script utilizes a 'Queue to' network followed by a 'Queue to' local directory number. A BUG0105 may occur if the site has virtual network services interworking with Network CCR.

BUG0105 - Double timeslot problem prevented.

ADMINISTRATION BV67809

The 'SWP' command in overlay 25 fails to swap MFC data from a non-existing loop to an existing loop. This problem only happens on option 81s and only for MFC trunk types.

MEMORY BV68133

On an option 51C or 61C with CP2 and 16 DRAM, the install menu does not appear after installing the SL-1 program.

RING AGAIN BV68159

After activating ring again a BUG4005 message is printed when set is notified that ring again was activated.

* BUG4005 - Lost time slot idle call register.

DATA BASE BV68571

The total number of messages in the HWI category is incorrect in the RPT data base.

Advisements

The following advisements are specific to Release 22.33 and later software.

Floppy Disk Requirements

Starting with X11 Release 22.33 the disk requirement has increased from 22 to 36MB floppy disks. The increased requirements is to provide disk space for Companion Microcellular. All sites will need to load the full set of disks during upgrade procedures. Sites not equipped with Companion Microcellular are still required to load the disks when prompted, but should not see a significant increase in the time needed to complete the upgrade.

CCR - NACD Interworking (Controlled Release)

CCR-NACD Interworking provides greater control for calls that need to be placed in multiple queues throughout a private ISDN enterprise network. With this enhancement a call can be logically placed into many queues throughout the network using the "Queue To" command, while the local Customer Controlled Routing (CCR) system maintains control over the call. Once a remote target agent is reserved by NACD, a call will be removed from the source Control Directory Number (CDN) queue and presented to the reserved target agent.

If the source node is running ACD-C reports, Call Accepted, Call Answered and Abandoned fields of CDN Report 2 will be pegged for a Queue to NACD call. TOF Out field of ACD DN (NACD Routing DN) Report 2 will be pegged when a Queue to NACD call has been answered by the remote target agent. If the source node is running ACD-D reports, a new QTN field will be added to existing Call Enter Queue (IECQ), CCR Call Cancel (ICCN), Network Call Overflowed (NOVF), Answered by Remote Agent (RCAA) and Network Call Released (NCRL) MAX messages to indicate the MAX message is sent for a queue to NACD call. High Speed Link (HSL) Protocol 11 or higher (i.e. MAX 8B) will reflect these changes in the reports.

If the remote target node is running ACD-C or ACD-D reports, the incoming Queue to NACD calls will be pegged like NACD calls. The source ACD DN for a Queue to NACD call would be a source CDN instead.

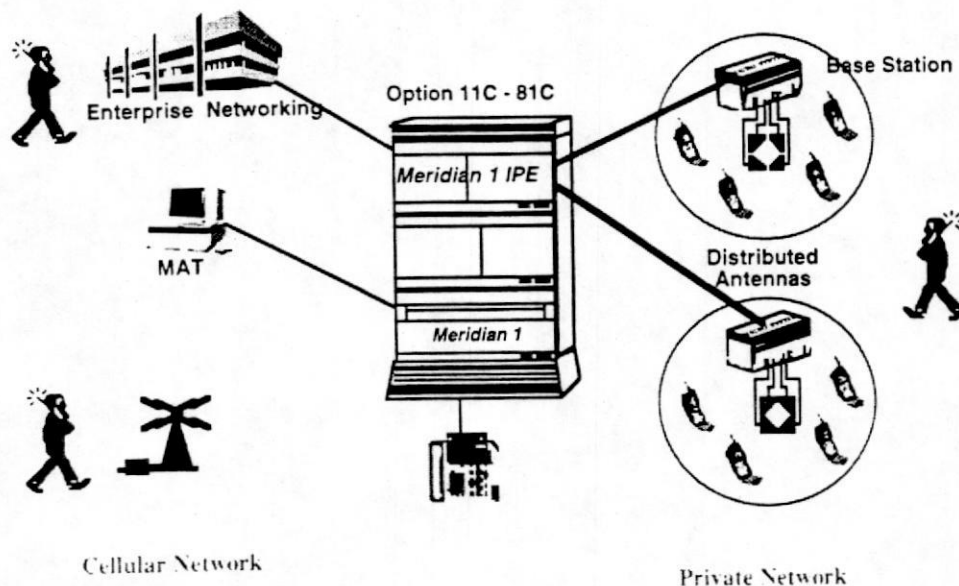
There is no restriction for the Queue to Command to a NACD Routing DN that the HSL Protocol be at least Release 11. The Queue to Command will still work with HSL Protocol 10 or lower. The only thing that will be affected by this are the MAX reports. If the HSL Protocol is 10 or lower, the MAX messages will not contain any new information and the length of the messages will remain the same.

A new package is required for CCR-NACD Interworking, package #321. There are no changes required in CCR or service change and administration.

Companion Microcellular (Controlled Release)

In-building and Wide-area Wireless Communications

X11 Release 22.46 supports Companion Microcellular. The following is a brief summary of this technology. For more information please contact Mr. Bruno Latin, Marketing Manager, (954) 851-8132.



Using a single standard cellular portable, the Microcellular product provides in-building and wide-area communications.

Companion Microcellular provides users both in-building and wide area mobility using a single standard cellular portable. Within the Microcell coverage area (in-building), the Microcellular system delivers wireless communications and popular Meridian 1 features including CLID, Message Waiting Indication, transfer and conference to the cellular portable user. No cellular air-time charges apply to calls made from within the Microcellular system's coverage area. When outside the microcell's coverage area, users may make and receive calls throughout the macrocellular network with the same cellular portable.

The Microcellular product also provides personal mobility across multiple Meridian 1's within an enterprise network and works in Remote-IPE configurations. Microcellular is fully integrated with the Meridian 1 PBX, but may also be used as an adjunct behind most other PBXs.

Microcellular uses the North American 800 MHz licensed cellular band; the required cellular channels must be provided by a Cellular Operator. Based on TDMA technology, the system supports the latest digital standard, IS-136 (DCCH), as well as IS-54(B) protocols.

Microcellular is supported on Meridian 1 Options 11C, 51C, 61C, 81 and 81C running X11 Release 22. Each Meridian 1 equipped with Microcellular requires MOSR (Option 302) and MMO (Option 303). Each Meridian 1 using the Multi-Site Networking feature must also have MMSN (Option 314). MAT 5 is also required, along with the Mobility System Management application. (Additional information on system configuration and pre-requisites can be found in the Microcellular NTPs: 553-3611-100, 553-3611-105, 553-3611-200, 553-3611-300 and 553-3611-110).

Two IPE cards, the Embedded Intelligent Mobility Controller (EIMC) and the Microcellular Transcoder Card (MXC), are required. The EIMC is the wireless controller, while the MXC provides the voice transcoding function and base station interface via standard twisted pair wiring (TCM).

The Microcellular Base Stations contain the radios and may be placed at various locations within the building, up to 3,000' away from the Meridian 1. All radio channels may be simulcast onto all antennas within the same partition to cover high density areas economically. A distributed antenna system, composed of directional antennas connected to the base stations via coaxial cable, is used to provide coverage. A directional antenna can usually cover up to 200 linear feet.

Microcellular uses industry standard, dual-mode AMPS/TDMA portables. IS-136 portables offer extended battery life and talk-time.

All OA&M functions are fully integrated with the Meridian Administration Tool (MAT).

Key Microcellular features include:

- Single handset:** One cellular portable for both in-building and wide area communications minimizes handset investment.
- Twinning:** The cellular portable and the wired set may be assigned the same Directory Number, allowing calls to be presented simultaneously to both devices. Call treatment preferences are preserved and users may answer calls on either device.
- Privacy:** When the desk set is twinned with the portable, Privacy prevents a call answered on the portable from appearing on the desk set.
- Cellular Spectrum Re-Use:** Use of licensed spectrum eliminates interference concerns.
- High capacity:** Supports up to 1,500 users per system.
- Large Coverage:** Microcellular can cover large sites or campus environments. It can also support high density applications.
- Ease of Expansion:** Capacity can be increased by adding radios to the base stations and additional IPE circuit packs, if necessary.
- Security:** TDMA digital technology makes it extremely difficult to eavesdrop.
- Data Capabilities:** Microcellular offers 9,600 baud data transfer capabilities for applications such as fax and e-mail.
- Multi-Site Roaming:** Microcellular allows roaming among Meridian 1 systems connected via a Primary Rate Interface (PRI) through use of the Mobility Multi-Site Networking feature package.
- Access to popular PBX Features:** Meridian 1 integration offers cellular portable users Message Waiting Indication, CLID, call transfer, 3-party conference, etc. while operating within the Companion Microcellular coverage area.

Multi-Channel Level Start/Control Mode (Controlled Release)

A new RAN mode of operation is available. In RAN terminology, this mode is called Multi-Channel Level Start/Control mode (MLSS). With Multi-Channel Level Start/Control mode, customers can provision separate individual RAN channels (or messages) to each RAN trunk member. The maximum length of the message for the new MLSS RAN mode is 608 seconds. The RAN software package (Option 7) and Intercept Treatment software package (Option 11) must be equipped.

The technician must cross connect one RAN channel to each EXUT RAN trunk unit. The connection of multiple EXUT's to a single RAN channel is not supported by the MLSS mode.

Note: Enhanced Universal Trunk Cards (NT8D14BA vintage or greater) are required to support the new MLSS mode. EXUT vintages prior to the NT8D14BA can not support the MLSS mode.

Service Change

In the Route Data Block (LD 16), a new RAN prompt (MLSS) is introduced to support this scenario. To configure a RAN Route in Multi-Channel Level Start/Control mode, the following prompts and responses must be followed:

Route Data Block (LD 16)

Prompt	Response
TKTP	RAN
RTYP	MLSS

Once RTYP = MLSS is selected and RDB provisioning is complete, trunk members are provisioned in LD 14 via existing service change prompts & responses.

Trunk Data Block (LD 14)

Prompt	Response
TYPE	RAN
XTRK	EXUT

Meridian Mail Password Suppression

Meridian Mail Password Suppression provides a new AML message which prevents a Meridian Mail user's log on password from being echoed on a set's display. Meridian Mail Release 11 is required. No new software package is introduced by this feature but Meridian Mail requires the existing package Call ID (CALL ID) package # 247. In addition the following packages are also required: Digit Display (DDSP) package # 19, Command Status Link (CSL) package #77 and Basic ACD (BACD) package # 40.

Meridian Administration Tools

Meridian Administration Tools (MAT) Release 4.5 now supports X11 Release 22 as well as systems running X11 Release 14, 17, 19, 20 and 21. MAT Release 4.5 is designed for the Windows 3.1 operating system. MAT Release 4.5 provides the following Applications: Station Administration, Traffic Analysis, Call Accounting and Call Tracking.

Meridian Administration Tools (MAT) Release 5 is introduced with X11 Release 22 and requires the Windows 95 Operating System. MAT Release 5 provides the following applications: Station Administration, Traffic Analysis, Call Accounting, Call Tracking, Maintenance Windows, ESN Analysis and Routing Tool and Alarm Management.

MAT Release 5 also supports connectivity to Meridian 1 via Ethernet for System Options 11C, 51C through 81C running X11 Release 22. If MAT 5 is connected to a System type of 51C through 81C via Ethernet the following minimum vintage cards and cables are required:

NT5D20BA (Release 01) - IOP/CMDU Card
NT6D63BA (Release 01) - IOP Card (1 for each IOP/CMDU or IOP card)
NT7D90DA (Release 01) - Ethernet Cable

Note: If MAT is connected via Ethernet a revised Parallel Upgrade procedure must be followed to ensure that the primary IP address remains active following a software upgrade. Please refer to the MAT Release 5 Common Services User Guide Release 5.0 (part number A0858266) for further details.

Software Control for M2008HF (Handsfree) Sets

This functionality provides the capability to configure/install M2008HF with handsfree. This means M2008HF sets can/should be equipped with the handsfree feature. To turn on the feature on the set, enable the class of service HFA (handsfree allowed) in Overlay 11. (Refer to product bulletin CALA-086-PB for more details).

If MAT is equipped, a patch is required for MAT Release 4.02 and later to support this feature. Sites running MAT Release 3 and below cannot be patched to support this operation. Sites with MAT Release 3 and below must upgrade to MAT Release 4.02 and later and obtain a patch to support the M2008 handsfree operation. Please contact your Technical Assistance Center for insertion of the patch.

ISDN Q-Sig Interworking

ISDN Q-Sig is the standards-based definition of the Integrated Services Digital Network (ISDN) "Q" Signaling (Q-Sig) reference point for private PBX-to-PBX interworking. This ISDN Layer 3 protocol has been defined by the European Computer Manufacturer's Association (ECMA) and adopted by the European Telecommunications Standards Institute (ETSI) for Europe and by the International Standards Organization (ISO) for global introduction.

ISDN Q-Sig is in a "MONITORED SHIPMENT" status at this time because Lucent's Definity Generic 3 Version 4 is the only PBX vendor to complete an interworking trial with the Meridian 1 in North America. Any additional interworking trial requests to other ISDN Q-Sig compliant PBX's will be reviewed on a case-by-case basis. Patches are required for Lucent Definity Connectivity. Please contact your Technical Assistance Center for insertion of the patches.

Please refer to the ISDN Q-Sig Interworking Product Bulletin #96049 for further details.

FILTER TTY Changes

When doing an upgrade to Release 22, the filter TTY (USER = FIL in Overlay 17) operation has changed. The filter TTY will only print alarms that are marked as critical in the Event Default Table (EDT) in Overlay 117 after upgrading to Release 22. Alarms which are marked as critical in the Event Default Table (EDT) can be made to print on the FIL TTY by adding them to the Event Preference Table (EPT) in Overlay 117 and changing the severity to critical. Note that this functionality is different than on prior releases.

Upgrade/Number of Call Registers on Options 51C/61C with 68030/68040 processor

Warning:

Prior to upgrading to an Option 51C/61C with the 68030/68040 based processor the number of call registers should be checked and may require adjustment, otherwise you may encounter insufficient memory.

For the Option 51C with 68030/68040 processor, the number of call registers should be configured to **1000/1500** respectively.

For the Option 61C with 68030/68040 processor, the number of call registers should be configured to **2000/3000** respectively.

Conversion

All supported systems upgrading to Release 22 **MUST** be operating on Release 21 software prior to converting to Release 22. Refer to the Software Conversion NTP (553-2001-320, issue 14 or later) for information on how to upgrade an existing software to Release 22. Please read the Software Conversion NTP thoroughly before performing any software conversions. All conversion procedures should be strictly followed step-by-step. **To avoid static discharge, wear a properly connected anti-static wrist strap when working on the Meridian 1 equipment.**

System security

Nortel strongly recommends changing the default system passwords for both Meridian 1 and Meridian Mail systems during initial installation. These passwords should be changed again when the system is placed in active service. These actions will help deter unauthorized system access which can result in toll fraud or system abuse.

For more information, please refer to the System Security Management NTP (553-3001-302) included with new system or system upgrade shipments.

Audit routine

As in the case of previous software releases, it is recommended that the Audit routine (Overlay 44) be specified as the background diagnostic to optimize the system capability to deal with call processing anomalies, especially in large line size and high traffic configurations.

Packaging Updates

There have been some changes to a number of packages as result of the introduction of Release 22C. Please contact your Nortel CALA representative if you have specific questions or needs.

Large System Package Changes (Options 51 - 81)

ADDITIONS TO PACKAGES:

Features 144 (ABCD), 294 (BTD) and 296 (MAT) have been added to package 0
Feature 289 (ADSP) has been added to package 7
Feature 323 (Euro-SS) has been added to package 16
Feature 247 (CALL) has been added to package 5

PACKAGES THAT HAVE BEEN MOVED:

Package 145 (ISDN) has moved from package 11 to package 0
Package 216 (BRI) has moved from package 15 to package 0
Package 164 (LAPW) is not an individual feature anymore. It has been moved to package 0

PACKAGES THAT HAVE BEEN REMOVED:

Package 314 (MMSN) has been removed from package 18 and been made an individual software feature.
S007314 Option 51C
S008314 Option 61C
S009314 Option 81C

INDIVIDUAL FEATURES (Not part of any package)

Feature 321 (NCCR) Note: This feature is currently on controlled release
Feature 309 (MASTER)

OTHER:

Package 16 (Multi-vendor ISDN) is OFF controlled release.
Feature 190 is no longer a CALA pre-requisit for feature 236.

CHANGES TO RELEASE 21, AS A RESULT OF THE INTRODUCTION OF 22C:
Package 240 is an individual feature.

The following new package numbers have been created:

Small Systems

Old #	New #	Item
S0004500	S004500A	NT CALA Meridian 1 Base software features package 0
S0004501	S004501A	Controlled Access software features package 1 (prereqs S004500A)
S0004502	S004502A	Multitenant Service software features package 2 (prereqs S004500A)
S0004503	S004503A	Meridian Hotel/Hospital software features package 3 (prereqs S004500A)
S0004504	S004504A	Property Management System Interface software features package 4 (prereqs S004500A, 4503A).
S0004505	S004505A	Meridian Mail software features package 5 (prereqs S004500A)
S0004506	S004506A	Meridian Hospitality Voice Services software features package 6 (prereqs S004500A, 4505A)
S0004507	S004507A	Meridian ACD Advance software features package 7 (prereqs S004500A)
S0004508	S004508A	Meridian ACD Management Report software features package 8 (prereqs S004500A, 4507A)
S0004509	S004509A	Meridian MAX software features package 9 (prereqs S004500A, 4507A, 4508A)
S0004510	S004510A	Meridian 1 Basic Networking software feature package 10 (prereqs S004500A)
S0004511	S004511A	Meridian Advanced ISDN software features package 11 (prereqs S004500A, 4510A)
S0004512	S004512A	Network Attendant Service software features package 12 (prereqs S004500A, 4510A, 4511A, 7056A).
S0004513	S004513A	Meridian Link Application Services software features package 13 (prereqs S004500A, 4505A, 4506A).
S0004514	S004514A	Meridian IVR/CCR software features package 14 (prereqs S004500A, 4505A, 4507A, 4508A)
S0004515	S004515A	Meridian BRI software features package 15 (prereqs S004500A, 4510A, 4511A)
S0004516	S004516A	Multivendor ISDN Networking software features package 16 (prereqs S004500A, 4510A, 4511A).
S0004517	S004517A	Enhanced Numbering Plan software features package 17 (prereqs S004500A).

Medium Systems:

Old #	New #	Item
S0004530	S004530A	NT CALA Meridian 1 Base software features package 0
S0004531	S004531A	Controlled Access software features package 1 (prereqs S004530A)
S0004532	S004532A	Multitenant Service software features package 2 (prereqs S004530A)
S0004533	S004533A	Meridian Hotel/Hospital software features package 3 (prereqs S004530A)
S0004534	S004534A	Property Management System Interface software features package 4 (prereqs S004530A, 4533A).
S0004535	S004535A	Meridian Mail software features package 5 (prereqs S004530A)
S0004536	S004536A	Meridian Hospitality Voice Services software features package 6 (prereqs S004530A, 4535A)
S0004537	S004537A	Meridian ACD Advance software features package 7 (prereqs S004530A)
S0004538	S004538A	Meridian ACD Management Report software features package 8 (prereqs S004530A, 4537A)
S0004539	S004539A	Meridian MAX software features package 9 (prereqs S004530A, 4537A, 4538A)
S0004540	S004540A	Meridian 1 Basic Networking software feature package 10 (prereqs S004530A)
S0004541	S004541A	Meridian Advanced ISDN software features package 11 (prereqs S004530A, 4540A)
S0004542	S004542A	Network Attendant Service software features package 12 (prereqs S004530A, 4540A, 4541A, 8056A).
S0004543	S004543A	Meridian Link Application Services software features package 13 (prereqs S004530A, 4535A, 4536A).
S0004544	S004544A	Meridian IVR/CCR software features package 14 (prereqs S004530A, 4535A, 4537A, 4538A)
S0004545	S004545A	Meridian BRI software features package 15 (prereqs S004530A, 4540A, 4541A)
S0004546	S004546A	Multivendor ISDN Networking software features package 16 (prereqs S004530A, 4540A, 4541A).
S0004547	S004547A	Enhanced Numbering Plan software features package 17 (prereqs S004530A).

Large Systems:

Old #	New #	Item
S0004560	S004560A	NT CALA Meridian 1 Base software features package 0
S0004561	S004561A	Controlled Access software features package 1 (prereqs S004560A)
S0004562	S004562A	Multitenant Service software features package 2 (prereqs S004560A)
S0004563	S004563A	Meridian Hotel/Hospital software features package 3 (prereqs S004560A)
S0004564	S004564A	Property Management System Interface software features package 4 (prereqs S004560A, 4563A).
S0004565	S004565A	Meridian Mail software features package 5 (prereqs S004560A)
S0004566	S004566A	Meridian Hospitality Voice Services software features package 6 (prereqs S004560A, 4565A)
S0004567	S004567A	Meridian ACD Advance software features package 7 (prereqs S004560A)
S0004568	S004568A	Meridian ACD Management Report software features package 8 (prereqs S004560A, 4567A)
S0004569	S004569A	Meridian MAX software features package 9 (prereqs S004560A, 4567A, 4568A)
S0004560	S004560A	Meridian 1 Basic Networking software feature package 10 (prereqs S004560A)
S0004561	S004561A	Meridian Advanced ISDN software features package 11 (prereqs S004560A, 4570A)
S0004562	S004562A	Network Attendant Service software features package 12 (prereqs S004560A, 4570A, 4571A, 9056A).
S0004563	S004563A	Meridian Link Application Services software features package 13 (prereqs S004560A, 4565A, 4566A).
S0004564	S004564A	Meridian IVR/CCR software features package 14 (prereqs S004560A, 4565A, 4567A, 4568A)
S0004565	S004565A	Meridian BRI software features package 15 (prereqs S004560A, 4570A, 4571A)
S0004566	S004566A	Multivendor ISDN Networking software features package 16 (prereqs S004560A, 4570A, 4571A).
S0004567	S004567A	Enhanced Numbering Plan software features package 17 (prereqs S004560A).

Small System Package Changes (Option 11)

ADDITIONS TO PACKAGES:

Features 144 (ABCD) and 294 (BTD) have been added to the General Business package.

Features 246 (VMB) and 289 (ADSP) have been added to the Enhanced Business package.

Feature 321 (NCCR) has been added to the Advanced Applications package. Note: this feature is currently on controlled release.

Feature 323 (Euro-SS) has been added to the Networking package.

PACKAGES THAT HAVE BEEN MOVED:

Packages 145 (ISDN) and 216 (BRI) have been moved from the Networking package to the General Business package.

PACKAGES THAT HAVE BEEN REMOVED:

Packages 302, 303 and 314 have been removed from the Networking package and are being offered as separate, optional features. These are all part of the Mobility Microcellular product and are only available on controlled release.

Package 82 (RESDB) has been removed from the Enhanced Business package and is not available on the Option 11 anymore.

Software Order Codes

All software order codes for RIs 22 remain the same.

Documentation Order Codes

All documentation order codes for RIs 22 remain the same.

Sales and Marketing Bulletin

Number: CALA-136-MB

Date: November 1997

Upshift Marketing Program

Nortel CALA is pleased to announce the availability of the Upshift marketing program. This program was specially design to help our small pre-Meridian 1 installed base, specifically SL-1 A/M/MS/S/SN/ST & half group N/NT with capacity requirements of between 100 to 300 lines, to upgrade their CPU, software and peripheral equipment at a significantly lower cost than currently available upgrade options. This program offers a refund for selected Existing Peripheral Equipment (EPE) when purchasing an Upshift Option 11 package as a means to upgrade an existing system.

Upshift will be effective from **November 17, 1997 through January 31, 1998.**

This bulletin contains the following information on the "Upshift" program:

- Program Overview
- Packaging/Order Codes/Pricing
- Ordering
- Terms and Conditions
- Equipment Returns
- Forms / Attachments:
 - a) Upshift Product Return Form
 - b) Upshift Refund Worksheet
 - c) Upshift Program Summary
 - d) Upshift - Eligible EPE



Program Overview

This program offers an attractive upgrade option to existing small pre-Meridian 1 systems (specifically SL-1 A/M/MS/S/SN/ST & half group N/NT). Upshift provides a solution which is 40 to 50 percent less costly and it upgrades not only the CPU and software, but also the peripheral equipment. The price savings is recognized by the program participant in two ways. First, through attractively priced system packages and secondly in the form of a refund for returned EPE. The refund will be credited to the Distributor's account after the completion of this marketing program.

An Option 11 Upshift package must be purchased in order to qualify for this program. The Option 11 will need to be of equal or greater capacity (number of line ports and trunk ports) than the system being replaced. By participating in this program Nortel will offer a refund on selected EPE cards of the existing system (see the attached "Upshift - Eligible EPE" list for eligible EPE). The amounts being offered are \$10 per trunk port and \$5 per line and data port (offer ranges from \$20 to \$80 per EPE card). All replaced EPE must be returned to Nortel in order to receive the credits.

The number of EPE cards that can be returned for a refund will depend on the number of IPE cards purchased. In other words, the number of line and trunk ports returned must be equal to or less than the number of line and trunk ports purchased. A worksheet (Upshift Refund Worksheet) has been provided at the back of this section to help calculate the refund earned.

This program cannot be used in conjunction with any other Marketing Programs unless otherwise stated. MAT 5.6 Common Services and Station Administration may be ordered at no cost with this program.



Packaging / Order Codes / Pricing

Upshift AC Packages & Pricing:

Upshift Order Code	CPC Code	Description	Price
NTVC27AA	A0724647	Meridian 1 Option 11- One Cabinet R22	\$3,480
NTVC28AA	A0724648	Meridian 1 Option 11-Two Cabinets R22	\$8,250
NTVC29AA	A0724649	Meridian 1 Option 11-Three Cabinets R22	\$12,930
NTVC30AA	A0724651	Meridian 1 Option 11- One Cabinet R22 & M.M.	\$8,280
NTVC31AA	A0724652	Meridian 1 Option 11-Two Cabinets R22 & M.M.	\$13,050
NTVC32AA	A0725681	Meridian 1 Option 11-Three Cabinets R22 & M.M.	\$17,730

Upshift DC Packages & Pricing:

Upshift Order Code	CPC Code	Description	Price
NTVC33AA	A0725682	Meridian 1 Option 11- One Cabinet R22	\$3,480
NTVC34AA	A0725683	Meridian 1 Option 11-Two Cabinets R22	\$8,250
NTVC35AA	A0725684	Meridian 1 Option 11-Three Cabinets R22	\$12,930
NTVC36AA	A0725685	Meridian 1 Option 11- One Cabinet R22 & M.M.	\$8,280
NTVC37AA	A0725686	Meridian 1 Option 11-Two Cabinets R22 & M.M.	\$13,050
NTVC38AA	A0725687	Meridian 1 Option 11-Three Cabinets R22 & M.M.	\$17,730



Upshift AC Package Contents:

These packages include Release 22 software with equivalent features as the existing software. Customer wanting to add new features will need to order S/W upgrades at regular list price (see CALA Price Manual - Chapter 4, section A).

NTVC27AA

Qty	Description
1	Option 11C Single Cabinet (AC) - QCA7730A
7	M2616 Modular Telephone - NT2K16XE-35
3	M2808 HF ML Telephone - NT2K08GC-35

NTVC30AA

Qty	Description
1	Option 11C Single Cabinet (AC) - QCA7730A
7	M2616 Modular Telephone - NT2K16XE-35
3	M2808 HF ML Telephone - NT2K08GC-35
1	Meridian Mail 2 ports/ 2 hours - QCA7587D

NTVC28AA

Qty	Description
1	Option 11C Single Cabinet (AC) - QCA7730A
1	Option 11C 10 m Exp. Cab. (AC) - NTVC2001
15	M2616 Modular Telephone - NT2K16XE-35
5	M2808 HF ML Telephone - NT2K08GC-35

NTVC31AA

Qty	Description
1	Option 11C Single Cabinet (AC) - QCA7730A
1	Option 11C 10 m Exp. Cab. (AC) - NTVC2001
15	M2616 Modular Telephone - NT2K16XE-35
5	M2808 HF ML Telephone - NT2K08GC-35
1	Meridian Mail 2 ports/ 2 hours - QCA7587D

NTVC29AA

Qty	Description
1	Option 11C Single Cabinet (AC) - QCA7730A
2	Option 11C 10 m Exp. Cab. (AC) - NTVC2001
22	M2616 Modular Telephone - NT2K16XE-35
8	M2808 HF ML Telephone - NT2K08GC-35

NTVC32AA

Qty	Description
1	Option 11C Single Cabinet (AC) - QCA7730A
2	Option 11C 10 m Exp. Cab. (AC) - NTVC2001
22	M2616 Modular Telephone - NT2K16XE-35
8	M2808 HF ML Telephone - NT2K08GC-35
1	Meridian Mail 2 ports/ 2 hours - QCA7587D



Upshift DC Package Contents:

These packages include Release 22 software with equivalent features as the existing software. Customer wanting to add new features will need to order S/W upgrades at regular list price (see CALA Price Manual - Chapter 4, section A).

NTVC33AA

Qty	Description
1	Option 11C Single Cabinet (DC)-QCA7731A
7	M2616 Modular Telephone - NT2K16XE-35
3	M2808 HF ML Telephone - NT2K08GC-35

NTVC36AA

Qty	Description
1	Option 11C Single Cabinet (DC) - QCA7731A
7	M2616 Modular Telephone - NT2K16XE-35
3	M2808 HF ML Telephone - NT2K08GC-35
1	Meridian Mail 2 ports/ 2 hours - QCA7587D

NTVC34AA

Qty	Description
1	Option 11C Single Cabinet (DC) - QCA7731A
1	Option 11C 10 m Exp. Cab. (DC) - NTVC2002
15	M2616 Modular Telephone - NT2K16XE-35
5	M2808 HF ML Telephone - NT2K08GC-35

NTVC37AA

Qty	Description
1	Option 11C Single Cabinet (DC) - QCA7731A
1	Option 11C 10 m Exp. Cab. (DC) - NTVC2002
15	M2616 Modular Telephone - NT2K16XE-35
5	M2808 HF ML Telephone - NT2K08GC-35
1	Meridian Mail 2 ports/ 2 hours - QCA7587D

NTVC35AA

Qty	Description
1	Option 11C Single Cabinet (DC) - QCA7731A
2	Option 11C 10 m Exp. Cab. (DC) - NTVC2002
22	M2616 Modular Telephone - NT2K16XE-35
8	M2808 HF ML Telephone - NT2K08GC-35

NTVC38AA

Qty	Description
1	Option 11C Single Cabinet (DC) - QCA7731A
2	Option 11C 10 m Exp. Cab. (DC) - NTVC2002
22	M2616 Modular Telephone - NT2K16XE-35
8	M2808 HF ML Telephone - NT2K08GC-35
1	Meridian Mail 2 ports/ 2 hours - QCA7587D



Ordering

The following information is required to process an order:

1. A Distributor purchase order (P.O.). The P.O. must include the following:
 - a) "Upshift Marketing Program" heading
 - b) One of the Upshift order codes
 - c) The serial number of the existing system
2. A bay face layout of the existing system.
3. Upshift Product Return Form.
4. A "Load 22/Overlay 22" printout of the existing system.

Note: Nortel will provide the Option 11 software that best matches the software of the existing system. No Software Order Forms are required. The information provided in the "Load 22/Overlay 22" printout will be used to determine the software of the new system.

Only one site (upgrade) will be allowed per P.O.

This information must be faxed to Alex Moreno at (954) 851-8300.

Terms and Conditions

Shipment lead times on orders placed under this program may vary from standard shipment lead times.

All products included on a purchase order utilizing this marketing program must be installed at a single customer location. Discounts are to be used only for equipment sold to end users; they cannot be used to purchase equipment for Distributor inventories. Furthermore, EPE equipment from the Distributor's inventory may not be returned for credit. **Any Violations to the Terms and Conditions of this policy will void any credits earned**



Equipment Returns

The Upshift program requires that the participating Distributor return the replaced Meridian SL-1 hardware as specified in the *Upshift Product Return Form* in order to receive the refund earned. The Distributor is to store all EPE received until the conclusion of this marketing program. Nortel will make arrangements and incur the cost to having the equipment shipped. It is recommended that the distributor wait until receiving the equipment of the last Upshift order before contacting Nortel. ***Only one shipment will be accepted per distributor.***

Equipment pick up may be requested by contacting Alex Moreno at the following:

Phone: (954) 858-7039

Fax: (954) 851-8300

e-mail: amoreno@nortel.com

The replaced hardware must be sent to the following address:

Nortel- Materials Recycling
2102 Tobacco Road
Durham, North Carolina, 27704
Attention: CALA "Upshift" Marketing Program

An Equipment Return Packing Slip will be faxed to the Distributor's purchasing agent by Nortel upon receipt of each Upshift purchase order. Returned EPE of each individual order must be bundled together and should include the Equipment Return Packing Slip unique to that order. All bundles (orders) accumulated throughout this marketing program will be shipped as one package in order to minimize shipping costs.

It is the Distributor's responsibility to ensure proper packaging of the replaced Meridian SL-1 equipment. All returned equipment must be packaged adequately to prevent damage to the enclosed components. The Distributor will not receive a refund for any returned equipment that is damaged or otherwise non-reusable.

Nortel will incur the normal and customary cost of shipping the returned equipment to Durham, North Carolina. Nortel will only pay the normal and customary cost of shipping the returned equipment. If the cost is excessive, the distributor will be billed for any charges over the normal and customary cost.

All returned hardware becomes the property of Nortel. All returned equipment must be in working condition.

Returned equipment does not create any form of discount balance for future redemption, and discount eligibility cannot be transferred between customers.

Failure to return the replaced EPE by March 31, 1998 will forfeit any credits earned. Extensions may be requested by contacting Alex Moreno at (954) 858-7039.

Meridian 1 and SL-1 are trademarks of Northern Telecom.





Upshift PRODUCT RETURN FORM

ATTENTION:**THIS FORM MUST ACCOMPANY ALL ORDERS.**

Reference Number:

(Must have both:) Distributor P.O. Number: _____

Switch Serial Number: _____

Customer/Location:

Proposed De-Installation Date: _____

Customer Name: _____

Customer Address: _____

Contact Name: _____

Telephone Number: _____ FAX Number: _____

Distributor Contact:

Name: _____ Phone Number: _____

Company: _____ FAX Number: _____

Product Return Information:

Number of Line Ports: _____ Trunk Ports: _____ Data Ports _____

Refund (\$) Line Ports: _____ Trunk Ports: _____ Data Ports _____

Quantity	Part #	Quantity	Part #

Attach sheets as needed.



End User: _____

P.O. #: _____

**Upshift
Refund Worksheet**

This worksheet is provided to help calculate refund earned.

1 of 2

A. TRUNKS

<u>Part Code</u>	<u>Description</u>	<u>Ports</u> <u>Card</u>	<u>x Qty = Ports</u>
QPC71	2 W E&M/DX sig. & paging trunk, SD, Mu-Law	2	_____
QPC72	Loop signaling TIE/DID/AIOD trunk, , SD, Mu-Law	2	_____
QPC74	Ran trunk, SD, Mu-law	4	_____
QPC217	CO Trunk - mu-Law	2	_____
QPC218	CO/FX trunk, SD, Mu-Law	2	_____
QPC219	CO/FX trunk, SD, Mu-Law	2	_____
QPC237	4W E&M/DX TIE trunk, SD, Mu-Law	2	_____
QPC250	Release link trunk	2	_____
QPC287	2W E&M/DX signaling & paging trunk, SD, A-law	2	_____
QPC288	Loop signaling TIE/DID trunk, SD, A-Law	2	_____
QPC289	Recorded dictation trunk, SD, A-law	2	_____
QPC290	Recorded announcement trunk, SD, A-Law	4	_____
QPC296	4W E&M/DX TIE trunk, SD, A-Law	2	_____
QPC330	Buffered message registration trunk, SD, Mu-Law	2	_____
QPC331	Buffered message registration trunk, SD, A-Law	2	_____
QPC391	Pulsed E&M trunk, SD, Mu-Law	2	_____
QPC449	Loop signaling TIE/DIDtrunk, DD, Mu-Law	4	_____
QPC450	CO Trunk/FX trunk, DD, Mu-Law	4	_____
QPC525	CO/PPM trunk, DD, Mu-Law	4	_____
QPC526	CO/PPM trunk, DD, A-Law	4	_____
QPC527	CO/FX trunk, DD, A-Law	4	_____
QPC559	Loop signaling TIE/DID trunk, DD, A-Law	4	_____

Total Trunk Ports: _____

B. DATA

<u>Part Code</u>	<u>Description</u>	<u>Ports</u> <u>Card</u>	<u>x Qty = Ports</u>
QPC311	500/2500 line card, SD, Mu-Law	4	_____
QPC341	SL-1 line card, SD, Mu-Law	4	_____
QPC432	500/2500 off premise line card, SD, Mu-Law	4	_____

Total Trunk Ports: _____



End User: _____

P.O. #: _____

**Upshift
Refund Worksheet**

This worksheet is provided to help calculate refund earned.

2 of 2

C. LINES

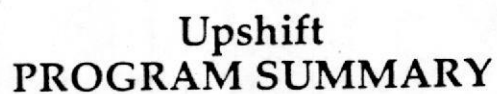
<u>Part Code</u>	<u>Description</u>	<u>Ports</u> <u>Card</u>	<u>x Qty = Ports</u>
QPC60	500/2500 line card, SD, Mu-Law	4	_____
QPC61	SL-1 line card, SD, Mu-Law	4	_____
QPC192	500/2500 off premise line card, SD, Mu-Law	4	_____
QPC267	500/2500 message waiting line card, SD, Mu-Law	4	_____
QPC286	500/2500 message waiting line card, SD, A-Law	4	_____
QPC292	500/2500 off premise extension, SD, A-Law	4	_____
QPC297	Supervisory SL-1 line, console + power, SD, Mu-Law	4	_____
QPC302	Ground button line card, SD, Mu-Law	4	_____
QPC342	Supervisory SL-1 line, console + power, SD, A-Law	4	_____
QPC343	Ground button line card, SD, A-Law	4	_____
QPC451	SL-1 line/console card, DD, Mu-Law	8	_____
QPC452	500/2500 line, DD, Mu-Law	8	_____
QPC494	500/2500 message waiting line, DD, Mu-Law	8	_____
QPC520	SL-1 line/console, DD, A-Law	8	_____
QPC521	500/2500 line card, DD, A-Law	8	_____
QPC532	Ground button recall line card, DD, A-Law	8	_____
QPC558	500/2500 msg waiting line card, DD, A-Law	8	_____
QPC578	Integrated services digital line card, A-Law/Mu-Law	8	_____
QPC594	500/2500 line card, QD, Mu-Law	16	_____
QPC682	500/2500 message waiting line card, DD, A-Law	8	_____
QPC695	500/2500 line for QPC594 motherboard, QD, A-Law	16	_____
QPC729	500/2500 line, QD, A-Law	16	_____
QPC745	Calib. ground button line motherboard, QD, A-Law	16	_____
QPC789	500/2500 message waiting line, QD, Mu-law	16	_____
QPC936	500/2500 message waiting line, QD, A-law	16	_____

Total Line Ports: _____

D. REFUND EARNED

	<u>Total ports</u>	<u>X</u>	<u>\$/Port</u>	<u>=</u>	<u>Total Port Refund</u>
Line Port Refund:	_____	X	\$5.00	=	_____
Data Port Refund:	_____	X	\$5.00	=	_____
Trunk Port Refund:	_____	X	\$10.00	=	_____

Total Refund Earned: _____



Contact: _____

Attach sheets as needed.

Total refund Owed to Distributor: _____



Upshift - Eligible EPE

1 of 3

The following is a list of EPE that may be returned for a refund. *EPE not in this list are not eligible for refunds.*

These tables can also be used to determine the following:

- The number of ports per EPE cards
- IPE replacement and order code
- Refund per card

Analog Trunk Cards:

EPE			IPE Replacement	
Eng. Code	Ports	Refund	Eng. Code	IPE Description
QPC71	2	\$ 20	NT8D14BB	Universal trunk (8 Ports): For paging
			NT8D15AK	4W E&M trunk Card: For E&M/DX signaling
QPC72	2	\$ 20	NT8D14BB	Universal Trunk Card, XUT (8 ports)
QPC74	4	\$ 40	NT8D14BB	Universal Trunk Card, XUT (8 ports)
QPC217	2	\$ 20	NT8D14BB	Universal Trunk Card, XUT (8 ports)
QPC218	2	\$ 20	NT8D14BB	Universal Trunk Card, XUT (8 ports)
QPC219	2	\$ 20	NT8D14BB	Universal Trunk Card, XUT (8 ports)
QPC237	2	\$ 20	NT8D15AK	4W E&M trunk Card, XEM (4 ports)
QPC250	2	\$ 20	NT8D15AK	4W E&M trunk (4 ports): For Remote
			NT8D14BB	Universal Trunk (8 ports): For Main
QPC287	2	\$ 20	NT8D14BB	Universal trunk (8 ports): For paging
			NT8D15AK	4W E&M trunk: For E&M/DX signaling
QPC288	2	\$ 20	NT8D14BB	Universal Trunk Card, XUT (8 ports)
QPC289	2	\$ 20	NT8D14BB	Universal Trunk Card, XUT (8 ports)
QPC290	4	\$ 40	NT8D14BB	Universal Trunk Card, XUT (8 ports)
QPC296	2	\$ 20	NT8D15AK	4W E&M trunk Card, XEM (4 ports)
QPC330	2	\$ 20	NTCK16AE	XFCOT with PPM (8 ports)
QPC331	2	\$ 20	NTCK16AE	XFCOT with PPM (8 ports)
QPC391	2	\$ 20	NT8D14BB	Universal Trunk Card, XUT (8 ports)
QPC449	4	\$ 40	NT8D14BB	Universal Trunk Card, XUT (8 ports)
QPC450	4	\$ 40	NT8D14BB	Universal Trunk Card, XUT (8 ports)
QPC525	4	\$ 40	NTCK16AE	XFCOT with PPM (8 ports)
QPC526	4	\$ 40	NTCK16AE	XFCOT with PPM (8 ports)
QPC527	4	\$ 40	NT8D14BB	Universal Trunk Card, XUT (8 ports)
QPC559	4	\$ 40	NT8D14BB	Universal Trunk Card, XUT (8 ports)



Upshift - Eligible EPE

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Line Cards:

EPE			IPE Replacement	
Eng. Code	Ports	Refund	Eng. Code	IPE Description
QPC60	4	\$ 20	NT8D09AK	Message waiting line card, (16 ports)
			NT8D02EA	Digital line card (16 voice & 16 data ports)
QPC61	4	\$ 20	NT8D02EA	Digital line card (16 voice & 16 data ports)
QPC192	4	\$ 20	NT1R20AB	Off premise station line card (8 ports)
QPC267	4	\$ 20	NT8D09AK	Message waiting line card, (16 ports)
			NT8D02EA	Digital line card (16 voice & 16 data ports)
QPC286	4	\$ 20	NT8D09AK	Message waiting line card, (16 ports)
			NT8D02EA	Digital line card (16 voice & 16 data ports)
QPC292	4	\$ 20	NT1R20AB	Off premise station line card (8 ports)
QPC297	4	\$ 20	NT8D02EA	Digital line card (16 voice & 16 data ports)
QPC302	4	\$ 20	NT8D09AK	Message waiting line card, (16 ports)
			NT8D02EA	Digital line card (16 voice & 16 data ports)
QPC342	4	\$ 20	NT8D02EA	Digital line card (16 voice & 16 data ports)
QPC343	4	\$ 20	NT8D09AK	Message waiting line card, (16 ports)
			NT8D02EA	Digital line card (16 voice & 16 data ports)
QPC451	8	\$ 40	NT8D02EA	Digital line card (16 voice & 16 data ports)
QPC452	8	\$ 40	NT8D09AK	Message waiting line card, (16 ports)
			NT8D02EA	Digital line card (16 voice & 16 data ports)
QPC494	8	\$ 40	NT8D09AK	Message waiting line card, (16 ports)
			NT8D02EA	Digital line card (16 voice & 16 data ports)
QPC520	8	\$ 40	NT8D02EA	Digital line card (16 voice & 16 data ports)
QPC521	8	\$ 40	NT8D09AK	Message waiting line card, (16 ports)
			NT8D02EA	Digital line card (16 voice & 16 data ports)
QPC532	8	\$ 40	NT8D09AK	Message waiting line card, (16 ports)
			NT8D02EA	Digital line card (16 voice & 16 data ports)



Upshift - Eligible EPE

3 of 3

Line Cards (Continued):

EPE			IPE Replacement	
Eng. Code	Ports	Refund	Eng. Code	IPE Description
QPC558	8	\$ 40	NT8D09AK	Message waiting line card, (16 ports)
			NT8D02EA	Digital line card (16 voice & 16 data ports)
QPC578	8	\$ 40	NT8D02EA	Digital line card (16 voice & 16 data ports)
QPC594	16	\$ 80	NT8D09AK	Message waiting line card, (16 ports)
			NT8D02EA	Digital line card (16 voice & 16 data ports)
QPC682	8	\$ 40	NT8D09AK	Message waiting line card, (16 ports)
			NT8D02EA	Digital line card (16 voice & 16 data ports)
QPC695	16	\$ 80	NT8D09AK	Message waiting line card, (16 ports)
			NT8D02EA	Digital line card (16 voice & 16 data ports)
QPC729	16	\$ 80	NT8D09AK	Message waiting line card, (16 ports)
			NT8D02EA	Digital line card (16 voice & 16 data ports)
QPC745	16	\$ 80	NT8D09AK	Message waiting line card, (16 ports)
			NT8D02EA	Digital line card (16 voice & 16 data ports)
QPC789	16	\$ 80	NT8D09AK	Message waiting line card, (16 ports)
			NT8D02EA	Digital line card (16 voice & 16 data ports)
QPC936	16	\$ 80	NT8D09AK	Message waiting line card, (16 ports)
			NT8D02EA	Digital line card (16 voice & 16 data ports)

Data Trunk Cards:

EPE			IPE Replacement	
Eng. Code	Ports	Refund	Eng. Code	IPE Description
QPC311	4	\$ 20	NT8D02EA	Digital line card (16 voice & 16 data ports)
QPC341	4	\$ 20	NT8D02EA	Digital line card (16 voice & 16 data ports)
QPC432	4	\$ 20	NT8D02EA	Digital line card (16 voice & 16 data ports)

NOTE: Equipment subject to change due to product retirement and new product introduction.



A World of Networks

Product Bulletin

Number: CALA-081-PB

Date: October, 1997

Nortel CALA Inc., *sistema* Meridian 1 Core Product Support Policy Update

Nortel CALA Inc., has updated its product support policy for Meridian 1 Core products. This update, effective November 1, 1997, supercedes previous updates, including copies of the policy located in other Nortel documents (i.e. Nortel CALA ENS Price Manual, Nortel CALA Distributor Procedures Manual etc.).

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The products impacted by this support policy are:

- Meridian SL-1 and Meridian 1 families of PBX systems
- Generic X08, X37 and X11 software
- System Management Tool, Meridian Administration Terminal (MAT)

concepto
We advise you to review this policy carefully and use it to determine your support status. Other Nortel products may have support plans which are different from the plan described here. Please contact your Nortel representative to obtain details about their respective plans.

This support policy is specifically defined and applicable only to Nortel's Caribbean and Latin American (CALA) market, which includes Mexico, Caribbean (including Bermuda), Central America and South America.

Global Account customers are asked to refer to their Nortel Global Account Manager to obtain support plan information for sites located outside of the Nortel CALA region.

This policy will be included in the next upissue of the Nortel CALA MCS price manual, and will also be incorporated into the Nortel CALA Distributor Procedures Manual.

Nortel CALA Inc., reserves the right to change any part of this policy at any time.

Meridian 1 Core Product Support Policy

*Sistema
Politica
plan*

Effective November 1, 1997

Table of Contents

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1.1	What is a product support policy (plan)
1.2	Objectives
1.3	Applicable products and region
1.4	Year 2000 impact
1.5	How to use the support plan
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3.1	Introduction
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3.3	MAT Hardware Support Plan
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Section 1

Introduction and General Information

1.1 WHAT IS A PRODUCT SUPPORT POLICY ?

A product support policy is a plan that identifies the level of support provided for a given set of products and services. Product support policies exist to account for technological advancements and changes in law, regulation, manufacturing and new customer requirements.

1.2 OBJECTIVES

Nortel's product support plan is designed to meet the following objectives:

- To inform of existing products, their service support and retirement plan.
- To inform of new product introduction and the impact of service support.
- To minimize product operating costs.
- To optimize service capabilities.
- To use as a guide for managing employee training requirements/strategies.

Nortel's product support policy provides information to assist our customers with their capital budget planning. This ensures our customers maintain the optimum level of service for their investment.

1.3 APPLICABLE PRODUCTS and REGION

The products impacted by this policy are:

- Meridian SL-1 and Meridian 1 families of PBX systems
- Generic X08, X37 and X11 software
- System Management Tool, Meridian Administration Tool (MAT)

If you use all of these products you should complete all sections of this policy to determine your overall support status.

This support policy is specifically defined and applicable only for Nortel's Caribbean and Latin American (CALA) market, which includes Mexico, Caribbean, Central America and South America.

Global Account customers are asked to refer to their Nortel Global Account Manager to obtain support plan information for sites located outside of the Nortel CALA region.

Nortel CALA Inc., reserves the right to change any part of this policy at any time.

1.4 YEAR 2000 IMPACT

This policy now factors in the Year 2000 impact for the CALA region. Please refer to product bulletin CALA-080-PB for details about the Year 2000 and its impact on the Meridian 1 portfolio of products offered in the CALA region.

1.5 HOW TO USE THE SUPPORT PLAN

1. Read Section 2 in its entirety.
2. Identify the PBX hardware platform and the release of software that you are using today.
3. **HARDWARE SUPPORT STATUS:** Reference Section 2.2.1 and Table 3 to identify the support status of your hardware. Reference Section 2.1.1 and Table 1 to identify what products and services are available to you based on the status identified.
4. **SOFTWARE SUPPORT STATUS:** Reference Section 2.3.1 and either Table 6 or 7 to identify the support status of your software. Reference Section 2.1.2 and Table 2 to identify what products and services are available to you based on the status identified.
5. If necessary, review sections 2.2.2 and 2.2.3 to determine any hardware breakpoints and evergreen paths available to you.
6. If you also use the MAT product, read and complete Section 3.

Section 2

MERIDIAN 1 Hardware and Software Support Plan

2.1 SUPPORT PHASES

Nortel's product support plan for Meridian 1 core hardware and software products has four phases:

Phase 1	CURRENT	(C)
Phase 2	ACTIVE	(A)
Phase 3	SUSTAINED	(S)
Phase 4	RETIRED	(R)

Each phase offers different levels of product and service support, as described in the tables that follow. As new products are introduced, support and service for existing products move to a new phase (phase down), to fewer and fewer offerings, until finally retirement is reached. Upon retirement, features and support services are no longer available.

There are different services available for each of the hardware and software phases. The next two sections identify the various phases and what services are offered. Y - yes, feature/service is available. N - no, feature/service is not available. Limited - feature/service may be available in certain circumstances, refer to notes below the table for more information.

2.1.1 MERIDIAN 1 HARDWARE SUPPORT PHASES

Table 1 lists each of the HARDWARE phases and defines what products and services are available.

Table 1: Hardware Support Phases

	CURRENT	ACTIVE	SUSTAINED	RETIRED
New Systems	Y	N	N	N
New Products (i.e. MICB, MIRAN etc.)	Y	Y	Y	Limited (1)
For Options 21 - 81, upgrades to.....	Y	N	N	N
For Option 11, upgrades to...	Y	N	N	N
Expansions (i.e. memory, ports, trunks etc.)	Y	Y	Y	N
TAS Support	Y	Y	Limited (2)	Limited (3)
Hardware Repair and Returns	Y	Y	Limited (4)	N
Recycling and vintage changes	Y	Y	Y	N
User Guides	Y	Y	Y	N
NTPs	Y	Y	Limited (5)	N

Notes:

1. Some new products may not be compatible with older hardware platforms. You may need to upgrade your hardware to support the new product.
2. Support may be limited to latest product issue only. Upissued hardware is provided if problem has known fix developed.
3. Problem diagnosis only.
4. Repair and returns may be available - billable to customer. No like-for-like replacements are available.
5. Subject to print release being available.

2.1.2 MERIDIAN 1 SOFTWARE SUPPORT PHASES

Table 2 lists each of the SOFTWARE phases and defines what products and services are available.

Table 2: Software Support Phases

	CURRENT	ACTIVE	SUSTAINED	RETIRED
New Software	Y	N	N	N
Upissues	Y	Y	Y	N
For Options 21 - 81. additional features	Y	Y	N	N
For Option 11. additional features	Y	Y	N	N
Bug fixes	Y	Y	Y	N
TAS Support	Y	Y	Y	N
Replacement tapes, diskettes and CD-ROMs	Y	Y	Y	Limited (1)
User Guides	Y	Y	Y	N
NTPs	Y	Y	Limited (2)	N

Notes:

1. Replacement tapes/diskettes/CD-ROMs will be provided if available. No new packages can be incorporated into replacement tapes/diskettes/CD-ROMs.
2. Subject to print release being available.

2.2 MERIDIAN 1 HARDWARE SUPPORT PLAN

2.2.1 HARDWARE SUPPORT STATUS

Table 3 identifies each of the machine types that have been introduced by Nortel CALA Inc., and their support status (refer to section 2.1.1 for description of the hardware support status definitions). Nortel CALA Inc., will make available at current prices, functionally equivalent repair/replacement hardware, for a period of **five years** from the date we manufacture discontinue and/or supercede a particular release of Nortel hardware.

For example: You purchased and installed an Option 11E system in 1995. Option 11C was introduced in October 1996, which means the Option 11E has now been superceded by new hardware. Nortel CALA Inc., will continue to support your Option 11E system for a period of five more years, starting when the Option 11C was introduced - October 1996 until October 2001. Your Option 11E system will then be retired on October 1, 2001. To continue receiving support beyond October 1, 2001 you will need to upgrade your Option 11E to an Option 11C or other system that becomes available in the future.

Table 3: Hardware Support Status

CURRENT	ACTIVE	SUSTAINED	RETIRED
11C	11E	11	L
51C	21E	21	VL
61C	51	ST	VLE
81	61		A
81C	71		AE
*	STE		XL
	RT		M
	NT		S
	XT		MS
			N
			XN

Notes:

1. All current systems are sold with the CP2 (68040) processor.
2. Table 3 indicates the hardware platforms that were officially introduced into the CALA region. Other regions may have introduced additional platforms, but they are NOT supported in CALA.
3. Hardware goes into active status when the next comparable platform is introduced (i.e. small system, large system).
4. The active interval is the start of the 5 year support limit. The retired status is the end of the 5 year support limit and occurs on the first of the month, 5 years after the start of active status. The Sustained status begins at the beginning of the 4th year (one year prior to the retirement date). The duration of the current and active status will vary.
5. Introductions of new circuit packs, cables, modules, telsets, peripherals, etc. do not change the active and subsequent status dates for a particular system, or the 5 year support timeline.
6. Technological developments, competitive environment and other business factors may impact the introduction of new hardware and the subsequent schedule for the support policy. Nortel reserves the right to change this policy at any time for any reason.

2.2.2 HARDWARE BREAKPOINTS

A hardware breakpoint is defined as the point where new hardware is required in order to support the next level of software. Knowing what hardware breakpoints you face will help you in planning your upgrade strategy.

Table 4a: Hardware Breakpoints

	14	15	16	18	20	21	22
M1 Large Systems	H	W	H	W		H	W
Option 11, 11E, 11C				H	W	H	W
					11E		11C

Table 4b: Hardware Breakpoints for Puerto Rico, Virgin Islands and Bermuda

	14	15	16	17	18	19	20	21	22
Puerto Rico, Virgin Islands and Bermuda									
M1 Large Systems	H	W		H	W			H	W
Option 11, 11E, 11C							H	W	H
							11E		11C

2.2.3 HARDWARE EVERGREEN PATH

The following identifies the evergreen paths for each of the four Meridian 1 / SL-1 family of PBX systems. For each family, the type of PBX is noted on the top and the year it was introduced is noted underneath. Use this chart to identify what evolution path you can take with the system you are using today.

Table 5: Meridian 1 / SL-1 PBX Evergreen Path

Option 11.....	Option 11E.....	Option 11C							
1991	1995	1996							
A.....	M.....	MS.....	S.....	ST.....	RT.....	Option 21.....	Option 51		
1979	1982	1984	1984	1987	1988	1990	1990		
L.....	LE.....	N.....	NT.....	Option 61					
1975	1977	1984	1986	1990					
VL.....	VL.....	XL.....	XT.....	Option 71.....	Option 81				
1976	1980	1984	1986	1990	1993				

2.2.4 HARDWARE WARRANTY

New hardware: fifteen months. This includes a three month period from date of shipment, plus a one year general warranty.

Repaired hardware: 90 days from date of shipment.

2.3 MERIDIAN 1 SOFTWARE SUPPORT PLAN

2.3.1 SOFTWARE SUPPORT STATUS

Make sure you have read and understood sections 2.1 - 2.2 before continuing with this section.

Tables 6 and 7 identify each of the software releases that have been introduced by Nortel CALA Inc. and their support status. Table 6 is for large systems (Options 21-81) and Table 7 is for small systems (Option 11). (Refer to section 2.1.2 for description of the software support status definitions).

Nortel CALA Inc., will make available at current prices, functionally equivalent repair/replacement software, for a period of **five years** from the date we discontinue and/or supercede a particular release of Nortel software.

For example: You purchased and installed Release 21 software in February 1996. Release 22 software was introduced in October 1996, which means the Release 21 software has now been superseded by new software. Nortel CALA Inc., will continue to support your Release 21 software for a period of five more years from when the Release 22 software was introduced - October 1996 until October 2001. Your Release 21 software will then be retired on October 1, 2001. To continue receiving support beyond October 1, 2001 you will need to upgrade your Release 21 software to a higher level of software (refer to support matrix to determine the appropriate software required).

Notes for Tables 6, 7, and 8:

1. Tables 6 and 7 indicate the software releases and their given upissues that were officially introduced into the CALA region. Only these releases are supported in CALA. Other Nortel regions may have introduced additional software releases, but they are NOT supported in CALA.
2. The first column in these tables 6 and 7 contains the upissue in **BOLD** as the most current version of a given release and is the one delivered when an order for that level of software is requested. Note that the initial release generic is parenthesized in the first column with the initial release date to the left.
3. * 21.44 and 21.45 are on controlled release.
4. ** 22C is not yet available (Market release will be 4Q98). ** 21G is not yet available (Market release date has not yet been determined).
5. Software goes into active status when the FIRST issue of the next release is introduced.
6. The active interval is the start of the 5 year support limit. The retired status is the end of the 5 year support limit and occurs on the first of the month, 5 years after the start of active status. The Sustained status begins at the beginning of the 4th year (one year prior to the retirement date). The duration of the current and active status will vary.
7. Upissues of a release do not change the active and subsequent status dates, or the 5 year support timeline.
8. Technological developments, competitive environment and other business factors may impact the introduction of new software and the subsequent schedule for the support policy. Nortel reserves the right to change this policy at any time for any reason.

Table 6: Large Systems: Software Support Status

RELEASE	CURRENT	ACTIVE	SUSTAINED	Entire Release RETIRES ON...
22.08 (10/96)				TBD
22.16	Yes			
22.C **				
21.23 (2/96)				Oct 1. 2001
21.31				
21.35		Yes		
21.44 *				
21.45 *				
21 G **				
20.06 (5/94)				Feb 1. 2001
20.19				
20.22				
20.32			Yes	
18.20 (5/93)				May 1. 1999
18.41				
18.44			Yes	
16.65 (5/91)				May 1. 1998
16.67				
16.86				
16.87				
16.90				
16.91				
16.92			Yes	
All remaining software is retired				

Table 7: Small Systems: Software Support Status

RELEASE	CURRENT	ACTIVE	SUSTAINED	Entire Release RETIRES ON...
22.08 (10/96)				TBD
22.16	Yes			
22.C **				
21.23 (2/96)				Oct 1. 2001
21.31				
21.35		Yes		
21.44 *				
21.45 *				
21 G **				
20.06 (5/94)				Feb 1. 2001
20.19				
20.22				
20.32			Yes	
18.20 (5/93)				May 1. 1999
18.41				
18.44			Yes	
16.65 (5/91)				May 1. 1998
16.67				
16.86				
16.87				
16.90				
16.91				
16.92			Yes	
All remaining software is retired				

2.3.1.1 PUERTO RICO - SOFTWARE SUPPORT STATUS

In Puerto Rico, two additional releases of software were made available, X11 Releases 19 and 17. The following table indicates the support status for these additional releases. All other software made available to Puerto Rico is the same as elsewhere in the CALA region - refer to Tables 6 and 7 for details.

Table 8: Software Support Status - Puerto Rico

RELEASE	CURRENT	ACTIVE	SUSTAINED	TO RETIRE ON...
19.12 19.17			Yes	May 1, 1999
17.60 17.61/65/66/67 /69/70/71/72			Yes	May 1, 1998

2.3.2 SOFTWARE WARRANTY

Meridian 1 software is warranted to enable the purchased features to be used as described in the relevant documentation as of the date of delivery.

Inability to use the purchased features because of software problems must be reported to CTAS within the applicable warranty period to qualify for resolution free of charge under the warranty provision.

Problems with emergency and service affecting situations which are reported to CTAS on systems under warranty or enrolled in the Service Support Plan, will be resolved free of charge by a software fix. When a new version of software is required, the software will be shipped without the need for a customer purchase order.

Problems addressed by means of an available software patch, which can be retained within the system via Patchsave, shall be considered resolved. No new version of software will be issued.

Outside a system warranty, a new release or issue of software to resolve a problem is billable.

Software Supplied For	Generic/Release	Issue	Warranty
New System	Current	Current	1 year
System Conversion	Current	Current	90 days
Feature Addition	Current/Active	Current	90 days
	Sustained	Current	90 days
Software Upgrade	Current/Active	Current	90 days
Replacement Tape	Installed (C.A.S.R)	Current	90 days

Notes:

1. All replacement software tapes/diskettes will be invoiced at the current list price (non-discountable). A credit will be issued for tapes ordered and returned in accordance with the Tape Cartridge Warranty provisions.
2. If a full complement of tapes or diskettes are ordered for a system, the current issue of the installed software will be supplied at no extra charge. If less than a full complement of tapes or diskettes are ordered, the existing issue installed on the system will be supplied. A full complement consists of 3 sets of tapes/diskettes and data cartridge(s) as required.

Section 3

MERIDIAN Administration Tool Software Support Plan

3.1 INTRODUCTION

If you are using the Meridian Administration Tool (MAT) to manage your Meridian SL-1/Meridian 1 PBX, you should also assess the support strategy for this product. It is important to make sure you have assessed the support status for your Meridian 1 hardware and software BEFORE proceeding with this section. Return to section 2 and complete it before continuing here.

3.2 MAT SOFTWARE SUPPORT PLAN

3.2.1 MAT SOFTWARE SUPPORT PHASES

Nortel's product support plan for MAT software has only two phases:

Phase 1 CURRENT

Phase 2 RETIRED

Each phase offers different levels of product and service support, as described in the table that follows. As new products are introduced, support and service for existing products move to the retired phase. Table 8 defines each phase, and lists what products and services are available.

Table 8: MAT Software Support Phases and their Product/Service Offerings

	CURRENT	RETIRED
New Software	Y	N
Upgrades	Y	Limited (1)
Software fixes	Limited (2)	N
TAS Support	Y	N
User Guides	Y	Limited (3)
NTPs	Y	Limited (3)

Notes:

1. Must upgrade to current software release.
2. Software fixes offered where possible. May be asked to upgrade to current release (at Nortel's expense) to obtain fix.
3. Subject to print release being available.

3.2.2 MAT SOFTWARE SUPPORT POLICY

Table 9 identifies each level of MAT software that has been introduced into the CALA region, and its support status. Refer to Table 8 for details on what products/services are provided with each status.

Table 9: MAT Software Availability and Support Status

Software Release	X11 S/W Compatibility	Availability in CALA	Status	Comments
Rls 3.02	Rls 14.47, 16.97G, 18.42H, and 20.	Nov. 1995	Retired	
Rls 3.5	Rls 14.47, 16.97G, 18.42H, 20 and 21.	Feb. 1996	Retired	
Rls 4.52	Rls 14.47, 16.97G, 18.42H, 20, 21 and 22	Oct. 21, 1996	Current	Controlled release for new system sales on PCs using Windows 3.1. Upgrades available.
Rls 5.02	Rls 14.47, 16.97G, 18.42H, 20, 21 and 22	Oct. 21, 1996	Retired	
Rls 5.6	Rls 14.47, 16.97G, 18.42H, 20, 21 and 22	Oct. 1, 1997	Current	All new system sales/upgrades for Windows 95 platform. * Maint. Windows, Alarm Mgmt and Ethernet connectivity are only compatible with X11 Rls 22.

Note: MAT Releases 2.11, 4.02 and 4.6 are not listed in this table because they were never introduced in to the CALA market.

3.3 MAT HARDWARE SUPPORT PLAN

Important: The Nortel CALA Inc., support plan covers MAT software ONLY.

MAT hardware support is as follows:

- a) **Tools:** The customer is responsible for purchasing their own terminals to support MAT. Therefore, support services for MAT tools are dependent on what is offered by the manufacturer of the tool(s) purchased.
- b) **MDR Buffer Boxes:** If the customer has an established support agreement (warranty) with MDR, the support is as defined in that agreement. If no agreement has been established, buffer box upgrades can also be performed on an as-needed basis by MDR, for a set fee. Contact MDR for details.
- c) **POLLCAT Buffer Boxes and TSB Buffer Boxes** are sold by alternate manufacturers. Support services for these two buffer boxes are dependent on what is offered by the manufacturer.

Section 4

NORTEL's Meridian 1 Right-To-Use Policy

4.1 SOFTWARE AND RIGHT-TO-USE (RTU)

A Northern Telecom **PBX system** requires a basic hardware package accompanied by an associated software generic. Both elements, hardware and software, are required to operate a system. For new system sales a basic system hardware package cannot be sold without the accompanying software license and the software cannot be licensed without the basic hardware system package.

The customer or end-user does not own the software; the use of the software is granted through a "**right-to-use**" license. Software cannot be sub-licensed to a **third party**. The software must be returned to Northern Telecom when the original system is removed from service.

Northern Telecom's **evergreen Policy** allows older systems to be upgraded to the latest software release. Evolution or upgrade package prices include only the hardware. When adding new software features the customer will pay for the new software features not associated with the original system. The software is transferred or applied to the new upgraded system.

The right-to-use the software runs on a "per system basis" and is individually identified for each system. Thus, the **removal from service** of the hardware, caused the license agreement to be terminated. The only exception to this automatic termination is original software used in new equipment due to hardware upgrade.

Excess hardware belongs to the customer. Any hardware displaced or not reused cannot be used to build another system, because there is no associated software. Left-over hardware can be used for spares and future maintenance to support compatible systems and is a valuable inventory when product is manufactured discontinued. Excess hardware if sold, is sold for its hardware value only and not sold for its system value.



NORTEL
NORTHERN TELECOM

Sales and Marketing Bulletin

Number: CALA-139-MB
Date: October 1997

Nortel CALA is pleased to inform of the availability of a product manufactured by a member of the Nortel's Business Affiliate program, which enhances the capabilities of the Norstar platform by allowing the digital station modules of the Modular ICS and 8x24 to be located up to 3 kilometers from the KSU.

Introduction

Digital Techniques Inc. announces the availability of the *Module Extender for Norstar*. This device is designed for the Norstar Modular ICS or Norstar Modular 8X24 and permits the remote placement of modules and applications at distances up to 3 kilometers or 1.9 miles from the KSU, through long fiber connections.

Product Responsibility

Digital Techniques Inc. is solely responsible for the design, manufacture, marketing, sale, distribution, support, and warranty of the Module Extender for Norstar.

Market Positioning

The Module Extender for Norstar should be positioned as an enhancement to Norstar customers that provides the capability to extend the reach of the core Norstar installation to remote locations. The Module Extender for Norstar has a number of possible applications including:

OPX Expansion: The Module Extender for Norstar permits up to 10 Fiber Station Modules to be placed in different locations at distances up to 3 kilometers from the Norstar core installation effectively tying together several branch locations into a single "Virtual Norstar" with all the benefits of full integration of core functions, applications and peripherals.

Multiple Dedicated Applications: In departmental environments, customers can share core Norstar KSU resources while still allowing departments full control over ACD or Norstar Voice Mail applications.

Campus Companion Installations: In campus environments with several buildings in proximity to one another, Companion can be configured to provide full access to personnel as they move around the facility.

Multiple Tenant Applications: The Module Extender for Norstar permits several customers in a mall or office complex environment to share the benefits of a Norstar system among their locations.

Product Description

Package Contents

The DTI Module Extender for Norstar, model number "MODEXT" includes the following components:

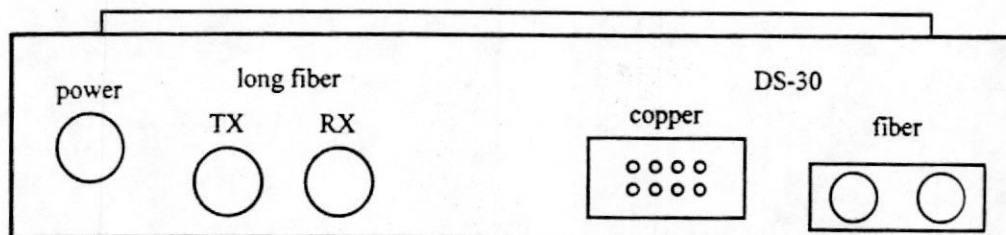
- One (1) Local Module Extender with power supply;
- One (1) Remote Module Extender with power supply;
- One (1) 2.1 m short fiber cable with fiber cable plugs on either end, mounted on a Norstar fiber cable spool;
- Eight (8) mounting screws
- One (1) English installation and user guide which includes a wall-mount template.

Customer Application - DTI Module Extender for Norstar
Page 1 of 4

Module Extender Units

The Module Extender units are dolphin gray and measure 7.75" x 4.25" x 1.5" (19.7 cm x 10.8 cm x 3.8 cm). They are labeled "DTI Module Extender - Local KSU Unit" and "DTI Module Extender - Remote Module Unit". Two LEDs for troubleshooting are mounted on the front of each unit and are labeled "DS-30" and "Long Fiber". The Modules may be desk or wall-mounted.

The back of the Local KSU Unit is shown below:



Connectors are provided as follows:

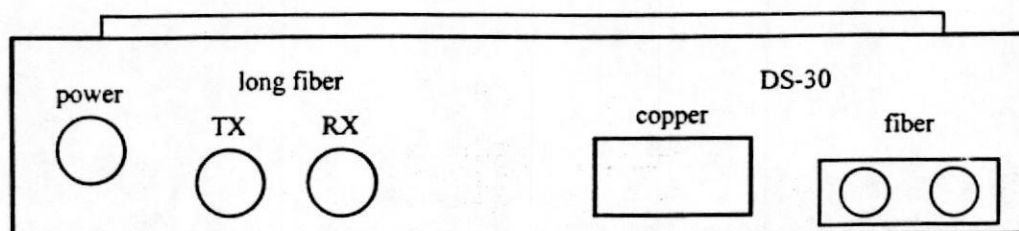
Power: Accepts the female receptacle of the provided power supply

Long Fiber TX and RX: Accepts the male connectors to the long fiber run between the KSU and module

DS-30 Copper: Accepts a Norstar DS-30 copper connector (for use with Modular 8X24, or the Modular ICS)

DS-30 Fiber: Accepts a Norstar DS-30 fiber connector (for use with Modular ICS)

The back for the Remote Module Unit is shown below:



The connectors provided are identical to the Local KSU Unit with the exception that no DS-30 Copper connector is provided.

KSU Interface

The Module Extender for Norstar may be connected to a Norstar KSU as follows:

Norstar KSU Type	Expansion Card Type	Expansion Card Part Number	Module Extender DS-30 Connection
Modular ICS	Mod ICS Fiber 2 Port	A0404244	Fiber
Modular ICS	Mod ICS Fiber 6 Port	A0404245	Fiber
Modular ICS	Combo Fiber 6 Port Svc	A0632426	Fiber
Modular ICS	Mod ICS Copper 2 Port	A0405796	Copper
Modular ICS	Mod ICS Copper 6 Port	A0405797	Copper
Modular 8X24	2 Port Copper	A0338794	Copper
Modular 8X24	6 Port Copper	A0338796	Copper

System Capacities

The System Capacities for Module Extenders are as follows:

Norstar KSU Type	Software Load	Capacity of Module Extenders
Modular ICS	NA-MICS	6
Modular ICS	MICS - XC	10 + 2 Companion
Modular 8X24	Any	6

Product Specifications

Power	Voltage Current Consumption Plug Type / Size	12 V ac 600 mA 10 watts max Barrel / 2.1 mm
Distance	Max Distance from KSU Max Distance from Module	6 Feet (2 meters) 6 Feet (2 meters)
Environment	Temperature Relative Humidity	0 to 50 degrees C 5% to 95% non-condensing

Maximum Long Fiber Loop Length

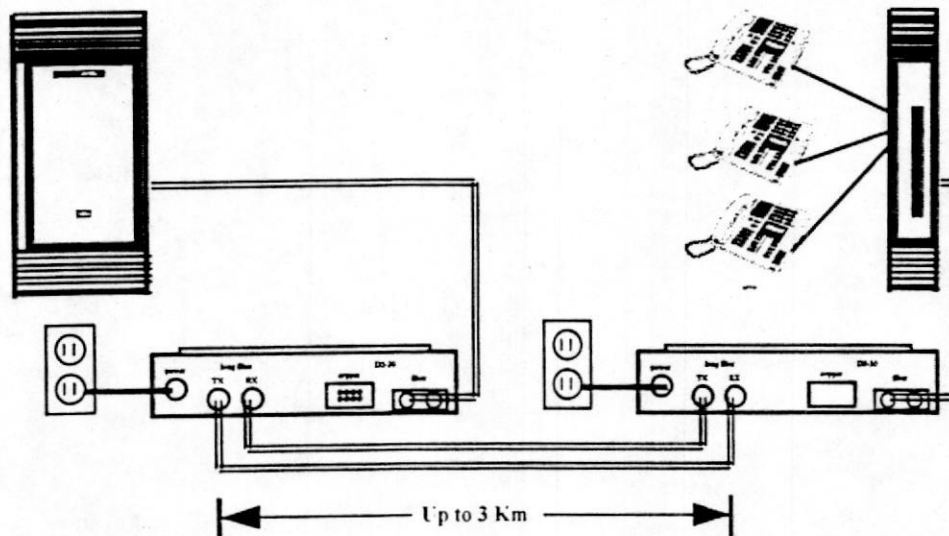
The maximum length of the fiber loop extending between the Local KSU unit and the remote module unit is dependent on the quality of the fiber optic cable employed. The signal attenuation between the two modules must not exceed 12 dB. The following formula may be used to determine the maximum loop length:

$$\frac{12 \text{ dB maximum signal attenuation}}{\text{Fiber cable attenuation (dB/km)}} = \text{Max Distance between Modules in km}$$

Module Extender Installation

The following procedure should be used to install the Module Extenders:

1. Ensure that the units are in the correct location:
 - The Local Module Extender is placed next to the KSU
 - The Remote Module Extender is placed next to the Station Module at the remote location;
2. Attach the provided adhesive bumper feet to the bottom of the Extender Unit in the four guides;
3. If the Extender units are to be wall mounted, use the wall mount template and screws provided;
4. Connect the cable and wires as shown below:



Technical Support, Training, Promotion, Warranty and Repair, and Ordering Information

For further information on DTI's Module Extender for Norstar including information concerning technical support, training, promotion, warranty and repair and price / ordering information, please contact:

Dan Ptak
Product Manager
Digital Techniques, Inc.
(972) 390-6202
(972) 727-4243 (FAX)
danptak@dtchs.com

or visit DTI's web site at:

www.digitaltechniques.com

If you have any questions or comments, or require further information, please contact the Norstar CALA group:

Carlos Fidalgo
Norstar Marketing Manager
Nortel CALA Inc.
1500 Concord Terrace
Sunrise, Florida 33323
U.S.A.

Tel. (954) 851-8064
Fax (954) 851-8300

Peter DeSousa
New Product Introduction, Norstar
Nortel CALA Inc.
1500 Concord Terrace
Sunrise, Florida 33323
U.S.A.

Tel. (954) 858-7031
Fax (954) 851-8811

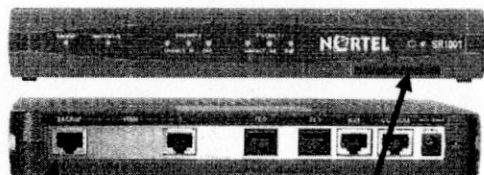
* Antonella Estrella
Norstar PLM Manager
Nortel CALA Inc.
1500 Concord Terrace
Sunrise, Florida 33323
U.S.A.

Tel. (954) 851-8031
Fax (954) 851-8300

Secure Router 100X Product Summary

1001, 1002, & 1004

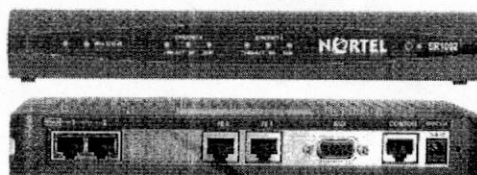
1001



Optional
Backup Port

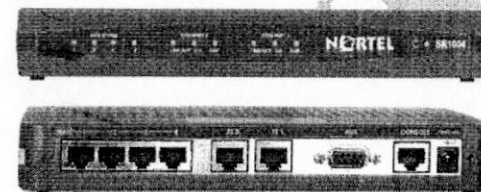
Flash
Card

1002



WAN Port(s)
(T1/E1)

1004



LAN Port(s)
2 * 10/100

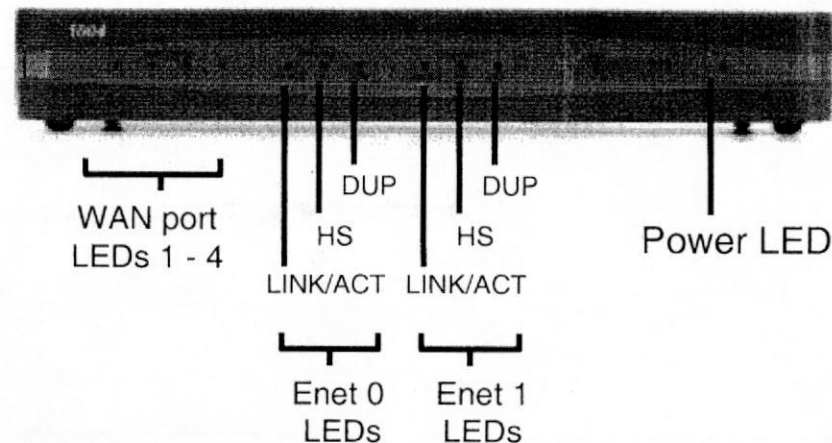
Aux
Port
Not used

Console
Port

Power
Connector
(12V DC)

	1001	1002	1004
T1/E1 Ports	1	2	4
Ethernet Ports	2 10/100	2 10/100	2 10/100
Memory	16Mbit Flash 128Mbit SDRAM	16Mbit Flash 256Mbit SDRAM	32Mbit Flash 256Mbit SDRAM
CSU/DSU	Yes	Yes	Yes
Console Port	Yes	Yes	Yes
Cisco like CLI	Yes	Yes	Yes
Power	External AC/DC	External AC/DC	External AC/DC
	T1 keycode upgrades available		
	Rackmount and Wallmount kits available		
14	1001S have serial i/f		Nortel Confidential Information

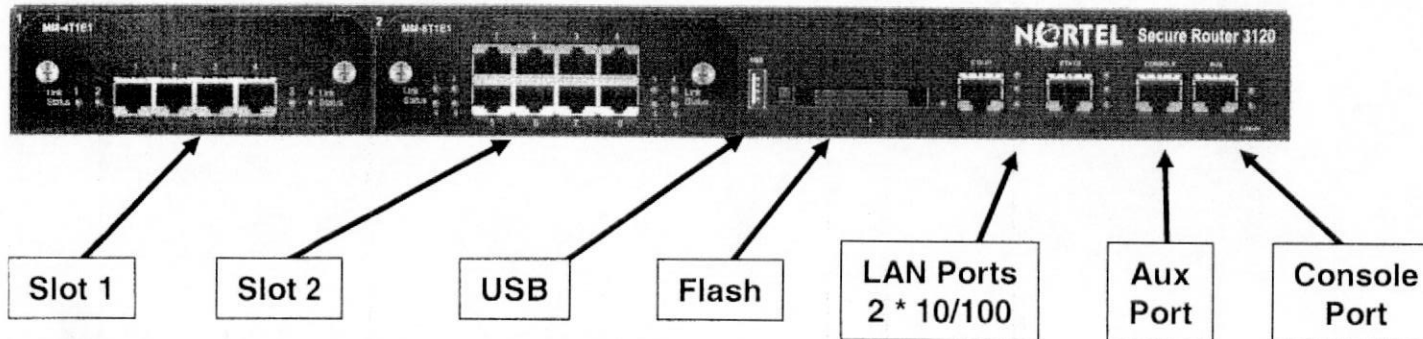
1004 Router Front Panel



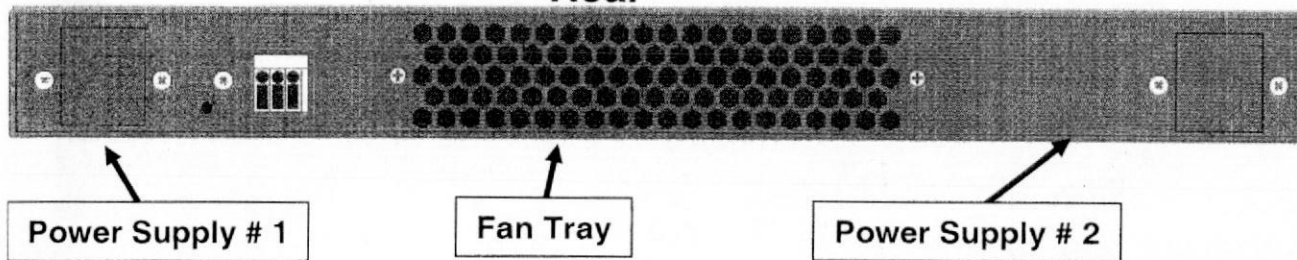
LED status details in NOTES section

Secure Router 3120 Product Summary

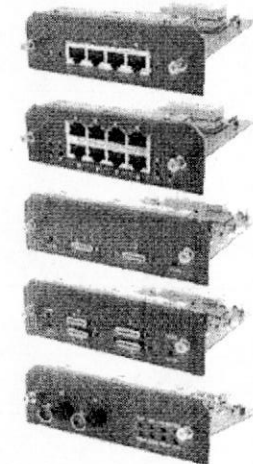
Front



Rear



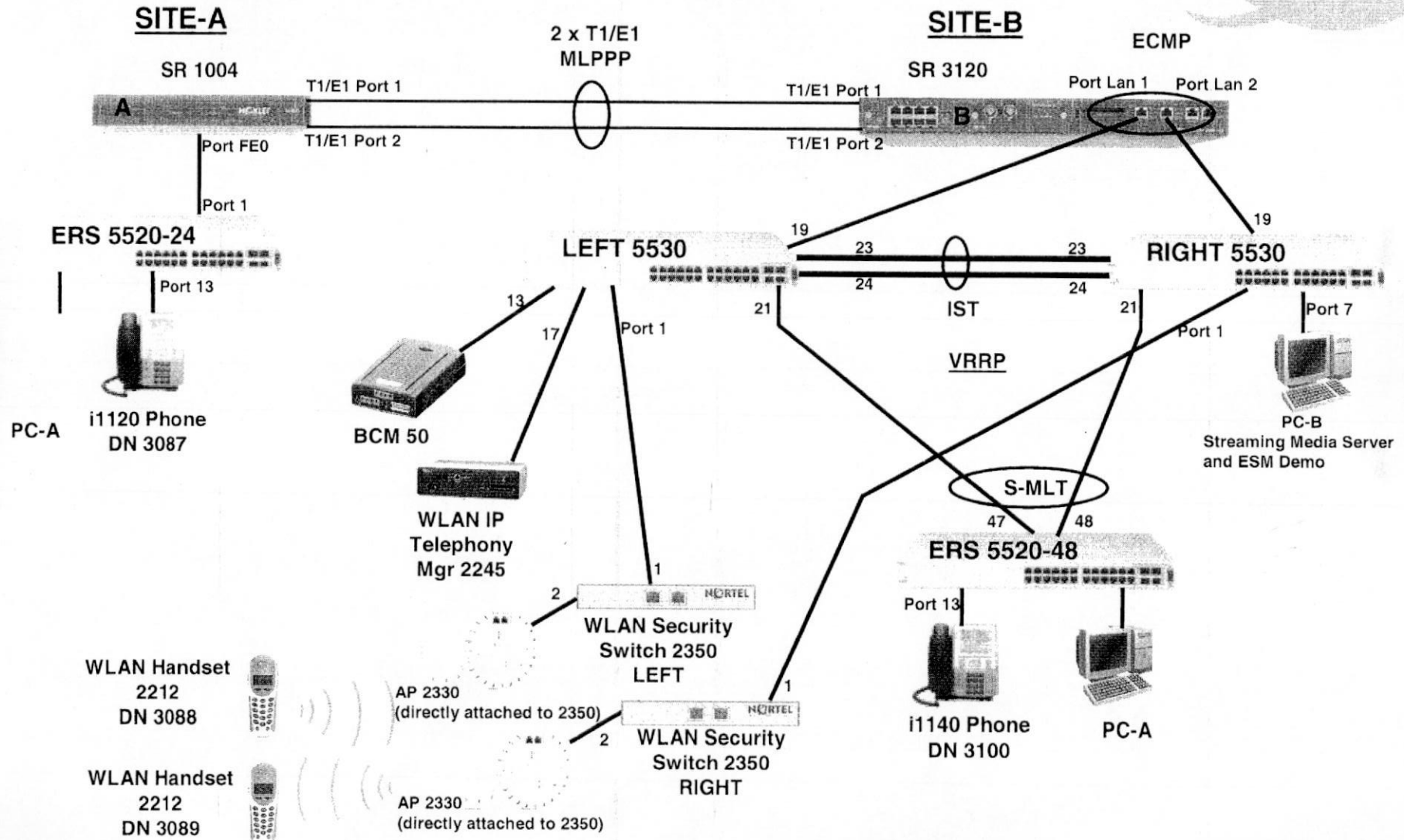
Interface Modules



- > 1RU
- > 400Mhz CPU
- > Memory 32 Mbit Flash 256 Mbit SDRAM
- > VPN HW Acceleration on the MB (s/w license required to enable)
- > External USB and CF Slots
- > Internal Dual PS options
- > 90Mbps wire-speed throughput with services turned on
- > Power Internal AC/DC

Module Type	Comments
Single CT-3	Q206 (by product launch)
Single DS-3 and E3	
4xT1/E1	T1\E1 software selectable on 1001/3120 only
8xT1/E1	T1\E1 software selectable on 1001/3120 only
2x Serial	V.35, (X.21, 530, 449 future)
4x Serial	V.35, (X.21, 530,449 Future)
Ethernet	TBD

Sample Nortel Data Network



New Nortel Networks Technical Support Portal Launch

Date: July 22, 2004

On August 2, 2004, the "Customer Support" portal becomes the "Technical Support" portal, and a new look and feel is launched!

We are pleased to announce that there are several changes being implemented on August 2nd that will improve your online technical support experience. The Customer Support portal will be renamed the Technical Support portal and you will be able to access this new portal via:

www.nortelnetworks.com/support

In addition to a new name, the Technical Support portal will also be completely revamped to provide you with advanced online support functionality that includes:

- **Product Finder-** a quick 1-2-3 step process to find all the content you need in three easy clicks - your one stop resource to locate software, documentation, bulletins and tools for Nortel Networks products.
- **Creation of a "My Support" section-** many of you have requested the flexibility to tailor your view of our support site to only those products that you manage. With this new "My Support" section, you will find:
 - **My Products-** Create a listing of your favorite products from Nortel Networks product portfolio; this is similar to the "My Products" capability that you have today, but in this release, these products can be viewed front and center within your own personalized support page.
 - **My Bookmarks-** Within each product that you select, you will have the ability to bookmark key content that is important to your day to day operations. This bookmark capability will be extended to software, documentation, and bulletins so that you can quickly access content that is most important to you.
 - **My eMail Alerts-** formerly My Notifications. We're not changing anything within this technology, just giving it a new name, and placing it within your "My Support" section for quick access to all your personalized functionality. This feature allows you to automatically sign up for email updates on the products that are most important to you.
 - **What's New-** for your profile of products within My Support, this functionality allows you to quickly see new content – since you last logged in and in the last 2 months. This will ensure that you never miss a new content posting!
- **New tabs for each product- Overview and Bulletins!**
 - **Overview Tab-** Many of you have expressed the need to create a personalized view of content that is pertinent to your day to day operations. By leveraging the "My Support" capability above and "My Bookmarks" you will now be presented with an

Overview tab that provides your bookmarked content for a specific product, as well as quick links to see all new content – since you last logged in and in the last two months!

- o **Bulletins Tab**- all of our bulletins will now be placed within a Bulletins Tab (previously, bulletins and documentation were all provided together under a Documentation tab). This separation will allow you to quickly find bulletins that are important to you.

In addition to these enhancements, you will also find a new look and feel to the portal, which provides an improved layout, making your navigation and usage easier than ever before. To visit a preview of these enhancements, and new look and feel, please take the tour under Support News, www.nortelnetworks.com/support. You will be provided with an opportunity to provide us with your feedback and we're anxious to hear what you think!

Remember, the new Technical Support portal will be launched on August 2, so stay tuned for an improved user experience.....coming soon!

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Nortel Networks is an industry leader and innovator focused on transforming how the world communicates and exchanges information. The Company is supplying its service provider and enterprise customers with communications technology and infrastructure to enable value-added IP data, voice and multimedia services spanning Wireless Networks, Wireline Networks, Enterprise Networks, and Optical Networks. As a global Company, Nortel Networks does business in more than 150 countries. More information about Nortel Networks can be found on the Web at www.nortelnetworks.com.